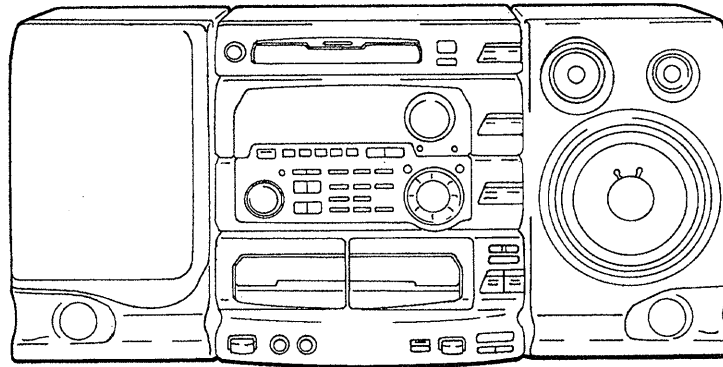


MHC-790

SERVICE MANUAL

AEP Model



- MHC-790 is composed of the models below. Service manuals are issued for each of the component models, so please refer to each of the manuals.

COMPONENTS MODEL

TUNER, DECK, CD, PLAYER, AMP	SPEAKER	REMOTE COMMANDER
HCD-H790	SS-H790	RM-S33

SPECIFICATIONS

Power requirements	220 – 240V AC, 50Hz
Power consumption	140W
Dimensions	Approx. 280 × 325 × 335 mm (w/h/d) incl. projecting parts and controls
Mass	Approx. 8.3kg

Design and specifications are subject to change without notice.

MINI Hi-Fi COMPONENT SYSTEM
SONY[®]

PARTS LIST

NOTE :

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Abbreviation
 G : German
 IT : Italian
 EE : East European
 AED : Norway, Sweden, Finland, Denmark

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
	1-467-967-11	REMOTE COMMANDER (RM-S33)	
	1-501-721-21	ANTENNA, LOOP	
	1-501-594-11	ANTENNA (FM)	
	3-798-608-41	MANUAL, INSTRUCTION (FRENCH/SPANISH/PORTUGUESE/DUTCH) (AEP)	
	3-798-608-51	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-798-608-61	MANUAL, INSTRUCTION (ITALIAN) (AEP, IT)	
	3-798-608-71	MANUAL, INSTRUCTION (ENGLISH/GERMAN) (AEP, EE)	
	3-798-608-81	MANUAL, INSTRUCTION (RUSSIAN/POLISH) (EE)	
	3-798-608-91	MANUAL, INSTRUCTION (SWEDISH/DANISH/FINNISH) (AED)	
	4-941-762-01	COVER, BATTERY (FOR RM-S33)	
*	4-981-842-01	INDIVIDUAL CARTON	

HCD-H790

SERVICE MANUAL

AEP Model

Model HCD-H790 is almost same as HCD-H801.

As only the difference from HCD-H801 is described in this manual,
please refer HCD-H801 service manual for the other section.

Page HCD-H801	HCD-H790		
	No.	Part No.	Description
54	* 5	4-980-806-01	PANEL, BACK (AEP)
	* 5	4-980-806-11	PANEL, BACK (G)
	* 5	4-980-806-21	PANEL, BACK (IT)
	* 5	4-980-806-41	PANEL, BACK (EE)
55	51	X-4946-931-1	LID (A) ASSY, CASSETTE
	52	X-4946-932-1	LID (B) ASSY, CASSETTE
	54	4-971-955-21	PANEL, LOADING
	55	4-971-956-21	BUTTON (EJ-A)
	56	4-971-957-21	BUTTON (EJ-B)
	59	X-4946-938-1	BRACKET (VOL) ASSY
56	102	4-971-901-51	PANEL FRONT
	104	4-971-905-01	BUTTON (EQ)
	105	4-971-902-02	WINDOW (FLD)
	106	4-971-913-21	BUTTON (POWER)
	107	X-4946-937-1	BUTTON (CURSOR) ASSY
	108	4-971-907-11	BUTTON (STR-B)
	110	X-4946-936-1	BUTTON (STR-A) ASSY
	111	X-4946-935-1	BUTTON (F/T) ASSY
	115	4-972-642-21	BUTTON (TC-STOP)
	116	X-4946-939-1	BUTTON (TC-PLAY) ASSY
	117	4-970-880-31	BUTTON (KARAOKE)
	121	X-4946-934-1	BUTTON (CD) ASSY

- Abbreviation
G : German
IT : Italian
EE : East European

NOTE :

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

COMPACT DISC DECK RECEIVER

SONY®

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

9-960-594-11

English
96B020443-1
Printed in Japan
© 1996.2
Published by Home A&V Products Div.
Quality Engineering Dept.

HCD-H801

SERVICE MANUAL

- HCD-H801 is the tuner, deck, CD and amplifier section in FH-G80.
- HCD-H801 is the tuner, deck, CD and amplifier section in MHC-801.



*AEP Model
UK Model
E Model
Australian Model*

Photo : AEP Model

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM28-5BD19
	Base Unit Name	BU-5BD19
Tape deck Section	Model Name Using Similar Mechanism	HCD-C33
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

CD player section

System Compact disc digital audio system
Laser Semiconductor laser
Wavelength 780 – 790 nm
Frequency response 2 Hz – 20 kHz

E, Saudi Arabia, Argentine, Hong Kong, Mexican, Malaysia, Singapore, Australian model :

MW: 531 – 1,602 kHz

(9 kHz step)

530 – 1,710 kHz

(10kHz step)

SW: 5.95 – 17.9 kHz

(E3, Saudi Arabia, Hong Kong, Malaysia, Singapore model)

Tuner section

FM stereo, FM/AM superheterodyne tuner

Aerial

AM loop aerial

External aerial terminals

FM tuner section

Tuning range 87.5 – 108.0 MHz (50 kHz step)

Intermediate frequency 450 kHz

Aerial FM lead aerial

Aerial terminals 75 ohm unbalanced

Intermediate frequency 10.7 MHz

Tape player section

Recording system 4-track 2-channel stereo

Frequency response (DOLBY NR OFF)
40 – 13,000 Hz (± 3 dB),
using Sony TYPE I cassette
40 – 14,000 Hz (± 3 dB),
using Sony TYPE II cassette

AM tuner section

Tuning range
AEP, UK, East European, German model :
MW : 531 – 1,602kHz
LW : 153 – 279kHz

Italian model :

MW : 522 – 1,611kHz (9kHz step)
LW : 153 – 279kHz

Wow and flutter

0.1% WRMS $\pm 0.3\%$ (DIN)

— Continued on page 2 —

COMPACT DISC DECK RECEIVER
SONY[®]

Amplifier section

Peak music power output
1000 W
Continuous RMS power output
68 + 68 W (6 ohms at 1 kHz,
5% THD)

Inputs
AUX IN: Sensitivity 450 mV,
impedance 47 kilohms

Outputs
PHONES (stereo phone jack):
accept headphones of
8 ohms or more.
SPEAKER: accept impedance of 6 to
16 ohms.

SURROUND SPEAKER:
accept impedance of 16
ohms.
(Singapore, Malaysia,
Mexican model)
accept impedance of 8 to 16
ohms. (EXCEPT Singapore,
Malaysia, Mexican model)

Speaker section

Speaker system
3-way system
Speaker units
Woofer: 15 cm dia., cone
type
Tweeter: 5 cm dia., cone
type
Super tweeter: 2 cm dia.,
dome type
Enclosure
Bass reflex

Frequency range

60 Hz – 20 kHz
Sensitivity
87 dB/W/m
Rated impedance
6 ohms
Dimensions
Approx. 210 x 325 x
250 mm (w/h/d)
Mass
Approx. 3.6 kg net per
speaker

Supplied accessories

AM loop aerial (1)
Remote (1)
Sony SUM-3 (NS) batteries (2)
FM lead aerial (1)
Speaker cables (2)

General

Destination	Power requirements	Power consumption
Australian, Malaysia model	220 – 240V AC, 50Hz	140W
AEP, German, Italian, East European model	220 – 230V AC, 50/60Hz	110W
E, Saudi Arabia, Argentine, Singapore, Hong Kong model	110 – 120V/220V – 240V AC, 50/60Hz Adjustable with the Voltage Selector	140W
Mexican model	120V AC, 60Hz	140W

Dimensions
Approx. 280 x 325 x
335 mm (w/h/d)
incl. projecting parts and
controls

Mass
Approx. 8.3kg (EXCEPT AEP, UK Model)
Approx. 7.8kg (AEP, UK Model)

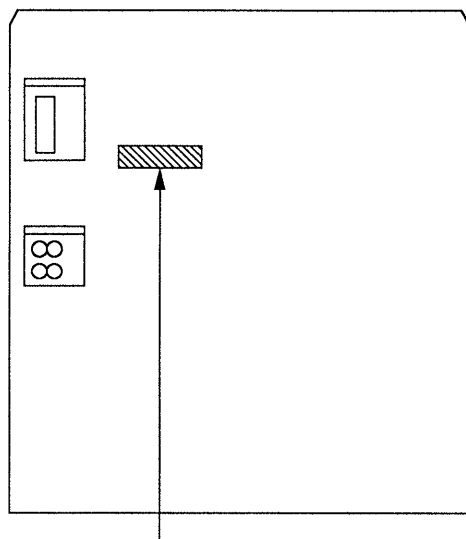
Design and specifications are subject to
change without notice.

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MODEL IDENTIFICATION

— BACK PANEL —



- 4-971-977-0□ : AEP (AE1) model
- 4-971-977-1□ : AEP (AE2) model
- 4-971-977-2□ : IT model
- 4-971-977-3□ : G model
- 4-971-977-4□ : UK (UK2) model
- 4-971-977-5□ : EE model
- 4-971-977-6□ : AEP (AE1) model
- 4-971-978-0□ : E model
- 4-971-978-1□ : EA model
- 4-971-978-2□ : AUS model
- 4-971-978-3□ : SP model
- 4-971-978-4□ : MX model
- 4-971-978-5□ : MY model
- 4-971-978-6□ : AR model
- 4-971-978-7□ : HK model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

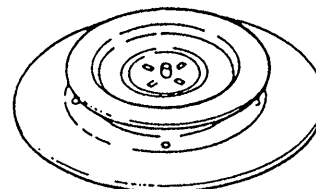
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig : X-4918-255-1



Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR
SIKKERHEDSÅFTRYKKERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA
OLET ALTTIINA LASERSATEILYLLE.
VARNING ; LASERSTRÅLING NÅR DENNIA DEL ÄR ÖPPNAD
OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES
UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

CAUTION

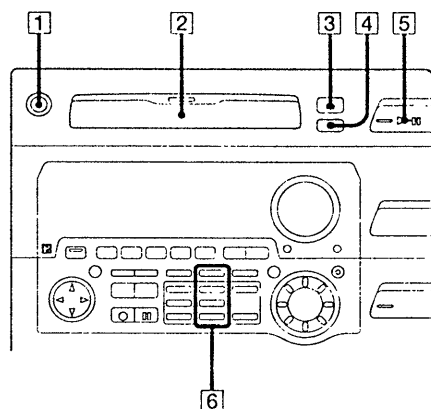
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Index to Parts and Controls

Refer to the pages indicated in parentheses for how to use the controls.
Controls with an asterisk have indicators on themselves.

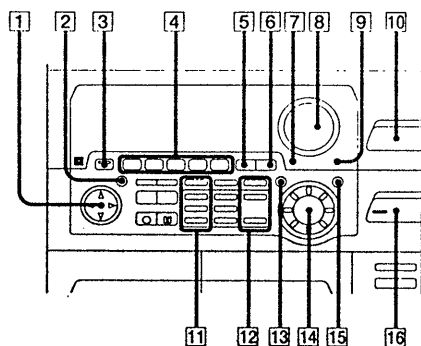
Front Panel

CD player



- 1 SYSTEM POWER ON/STAND BY switch (7)
- 2 CD tray (7)
- 3 OPEN / CLOSE button (7)
- 4 (stop) button (7)
- 5 ▷◁ (play and pause) button* (7)
- 6 CD operating buttons
CONTINUE button (8)
SHUFFLE button (8)
PROGRAM button (8)

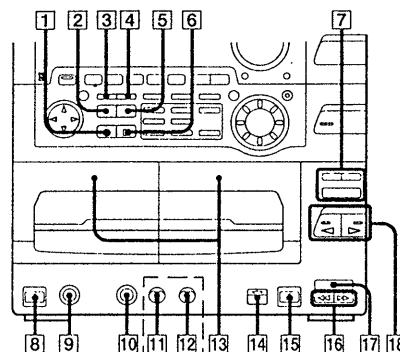
Tuner/Amplifier



- 1 EQ CONTROL button* (18)
- 2 MEMORY button (18)
- 3 USER FILE button* (18)
- 4 Preset equalizer setting buttons* (17)
- 5 DBFB button (17)
- 6 SURROUND button (17,21)
- 7 CLOCK SET button (6)
- 8 VOLUME control (17,19)

- 9 DISPLAY button (6,7)
- 10 FUNCTION button (8,14,21)
- 11 Timer operating buttons
TIMER SET button (19)
DAILY button (19)
TIMER REC button (20)
- 12 Tuner operating buttons
TUNING MODE button (10,20)
MONO button (10)
- 13 TUNER MEMORY button (11)
- 14 Jog dial (6,7,10,14,19)
- 15 ENTER/NEXT button* (6,11,19)
- 16 TUNER/BAND button* (10,15,20)

Tape player

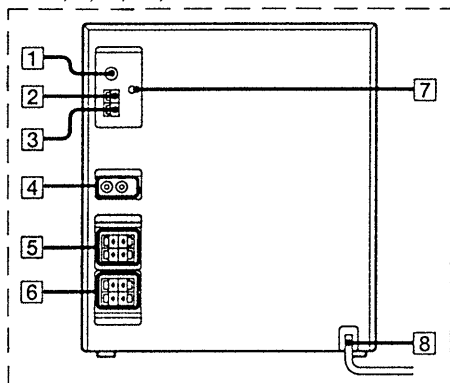


E, EA, AR, HK, MX,
MY, SP, AUS model

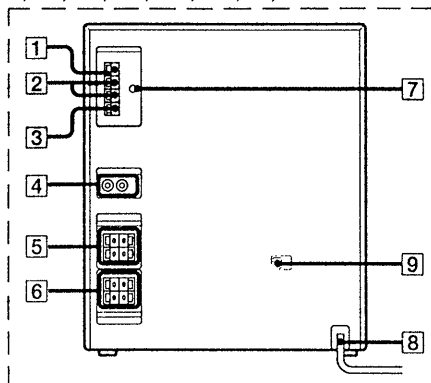
- 1 ● REC button* (13)
- 2 HIGH SPEED DUBBING button (16)
- 3 DOLBY NR button (12)
- 4 DIRECTION button (12)
- 5 CD SYNCHRO button (13)
- 6 || PAUSE button* (12)
- 7 DECK A/DECK B button and A/B lamps (12)
- 8 EJECT button (for deck A) (12)
- 9 PHONES jack (17)
- 10 MIX MIC jacks (21)
- 11 MIC VOLUME control (21)
- 12 ECHO VOLUME control (21)
- 13 Tape compartments (12)
- 14 KARAOKE PON/MPX button (21)
- 15 EJECT button (for deck B) (12)
- 16 ►► (fast rightward) (12)
◄◄ (fast leftward) buttons (12)
- 17 ■ (stop play) button (12)
- 18 ▷ (front side play)* (12)
◁ (reverse side play) buttons* (12)

Rear panel

AEP, G, IT, EE, UK model

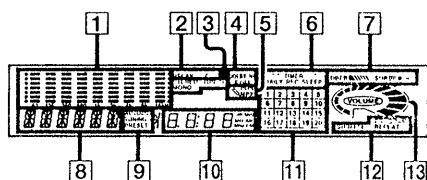


E, EA, AR, HK, MX, MY, SP, AUS model



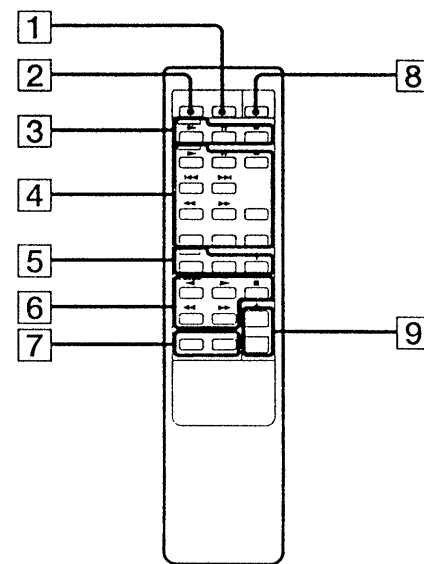
- 1 FM 75 Ω COAXIAL terminal (4) :
AEP, G, IT, EE, UK model
- 1 FM 75 Ω terminal (4) :
E, EA, AR, HK, MX, MY, SP, AUS model
- 2 earth terminals (4)
- 3 AM terminal (4)
- 4 AUX IN jacks (21)
- 5 SPEAKER connectors (4)
- 6 SURROUND SPEAKER connectors (21)
- 7 ground terminal (4)
- 8 Mains lead (5)
- 9 VOLTAGE SELECTOR (5) :
E, EA, AR, HK, MX, MY, SP, AUS model

Display window



- 1 Spectrum analyzer (18)
- 2 Tape direction indications (12)
- 3 Tuner indications (10)
- 4 DOLBY NR indication (12)
- 5 Karaoke indication (21)
- 6 TIMER/DAILY/REC/SLEEP indication (19,20)
- 7 DBFB/SUR indications (17,21)
- 8 Function indication (14,16)
- 9 AUTO/TUNING/PRESET/STEP indications (10,11,20)
- 10 Frequency/time indication (6,10)
- 11 Music calendar (7)
- 12 CD play mode indications (8,9)
- 13 VOLUME indication (17)

Remote (RM-S33)



- 1 SLEEP button (19)
- 2 FUNCTION button (8,14,21)
- 3 MD operating buttons
 - ▶ (play) button
 - ⏸ (pause) button
 - (stop play) button
- 4 CD operating buttons
 - ▶ (play) button (7)
 - ⏸ (pause) button (7)
 - (stop play) button (7)
 - ◀◀/▶▶ (AMS) buttons (7)
 - ◀◀/▶▶ (fast forward/fast reverse) buttons (7)
 - REPEAT button (9)
 - EDIT button (14)
 - CHECK button (8,14)
 - CLEAR button (8)
- 5 Tuner operating buttons
 - BAND button (10,15,20)
 - PRESET (+/-) buttons (11)
- 6 Tape operating buttons
 - ◀/▶ buttons (12)
 - button (12)
 - ◀◀/▶▶ buttons (12)
- 7 TAPE A/B buttons (12)
- 8 SYSTEM POWER button (7)
- 9 VOL(+/-) buttons (17,19)

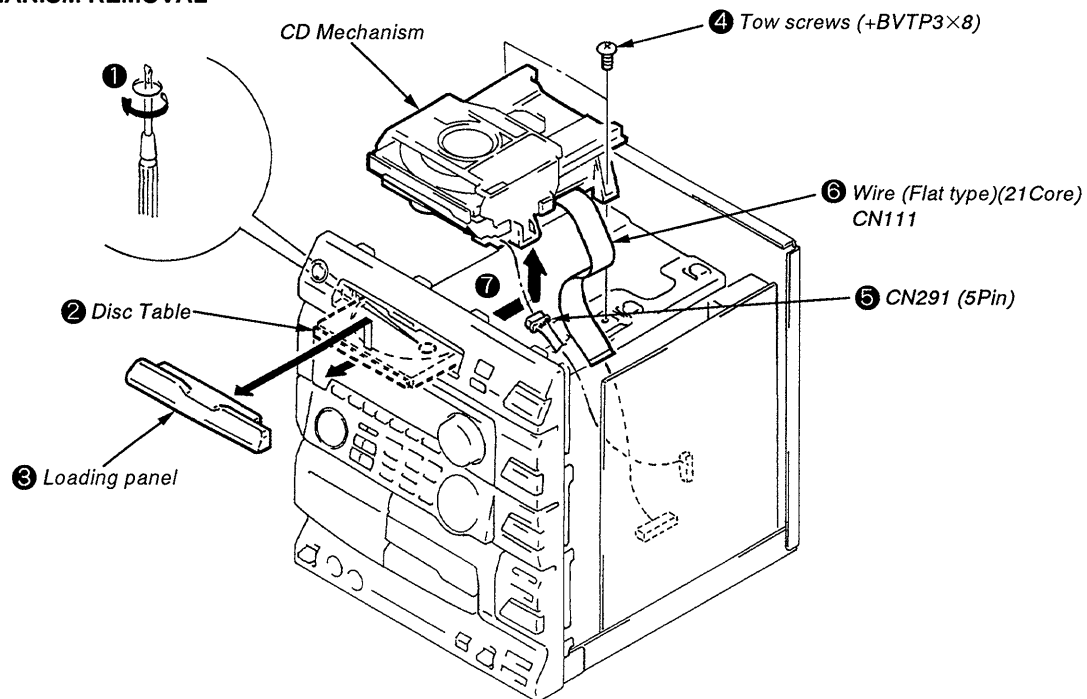
• Abbreviations

G	: German	MX	: Mexican
IT	: Italian	MY	: Malaysia
EE	: East European	SP	: Singapore
AUS	: Australian		
EA	: Saudi Arabia		
AR	: Argentine		
HK	: Hong Kong		

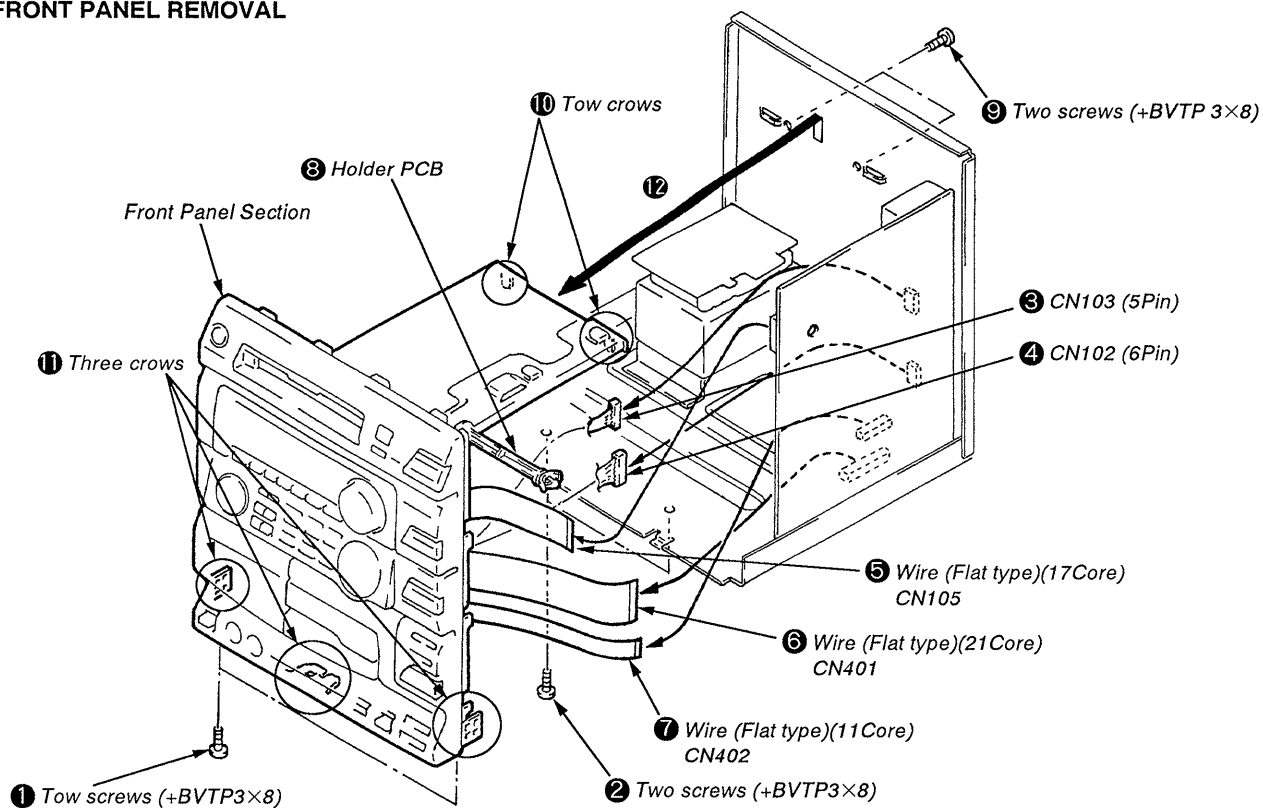
SECTION 3 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

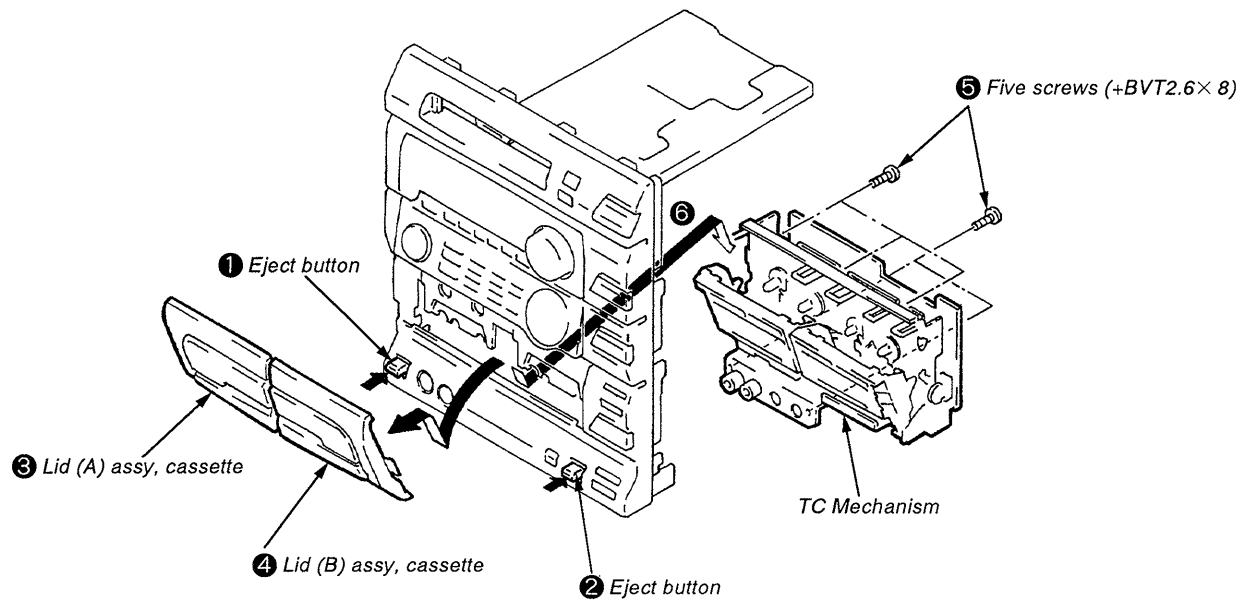
3-1. CD MECHANISM REMOVAL



3-2. FRONT PANEL REMOVAL



3-3. TC MECHANISM REMOVAL



SECTION 4 ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	36 to 61g•cm (0.50 – 0.84 oz•inch)
Forward Back Tension	CQ-102C	2 to 6g•cm (0.026 – 0.082 oz•inch)
Reverse	CQ-102RC	36 to 61g•cm (0.50 – 0.84 oz•inch)
Reverse Back Tension	CQ-102RC	2 to 6g•cm (0.026 – 0.082 oz•inch)
FF, REV	CQ-201B	61 to 143g•cm (0.85 – 1.98 oz•inch)

• Tape Tension Measurement

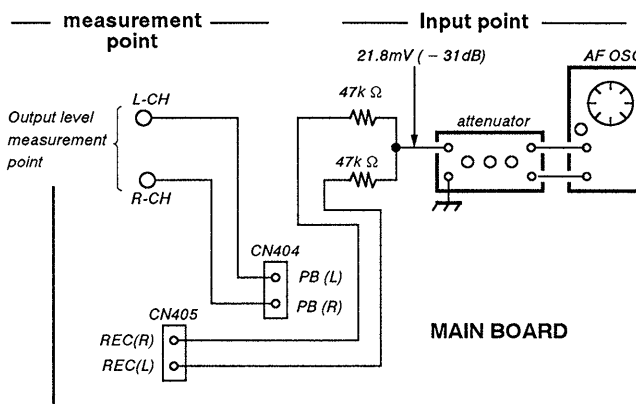
Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 1kg (35.2 oz)
Reverse	CQ-403R	more than 1kg (35.2 oz)

4-2. ELECTRICAL ADJUSTMENTS

DECK SECTION

- The adjustment should be performed in the publication.
(Be sure to make playback adjustment at first.)
- The adjustment and measurement should be performed for both L-CH and R-CH.
 - Switch position
DOLBY NR switch : OFF
FUNCTION button : CD
- Deck section electrical adjustments are made in test mode by pressing TUNER/BAND, DISPLAY, and POPS at the same time.
- Input point and output level measurement point.

Output level



• Test Tape

Tape	Contents	Use
P-4-A100	10kHz, -10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

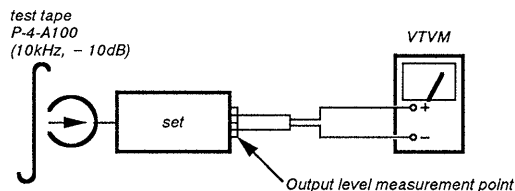
0 dB=0.775V

Record/Playback Head Azimuth Adjustment

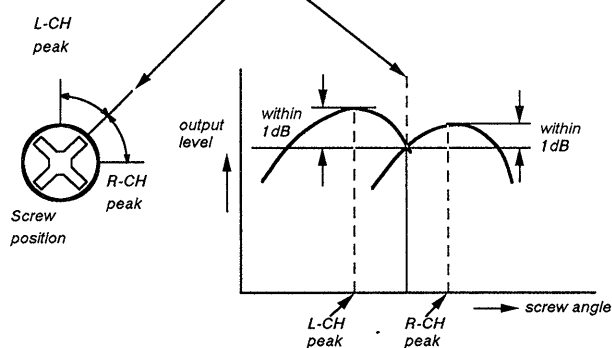
DECK A DECD B

Procedure :

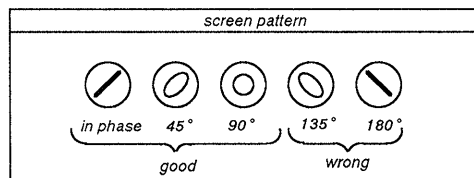
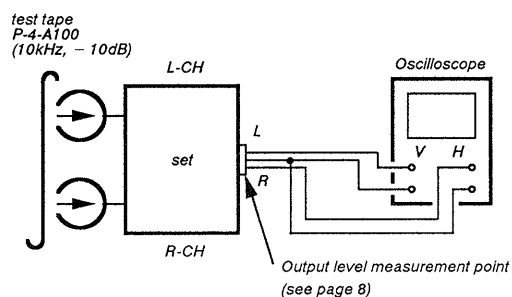
- Forward Playback mode
Reverse Playback mode



- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



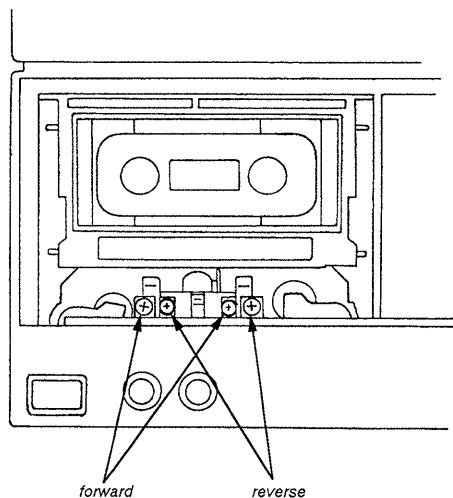
3. Playback Mode



- Change the review playback mode and repeat the steps 1 to 3.
- After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

— record/playback head (Deck A and B)

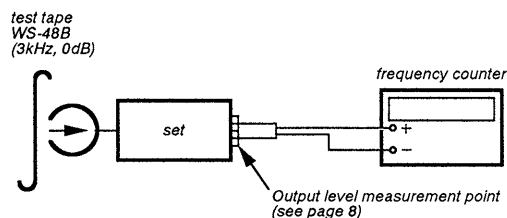


Tape Speed Adjustment **DECK A** **DECK B**

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : Playback



Speed	Deck	Adjustment	Frequency counter
※ High	A	RV652	5,970 to 6,030Hz
	B	RV652	
Normal	A	RV651	3,000 to 3,020Hz
	B	RV651	

* Continue to press HIGH SPEED DUBBING switch (S3019) in playback mode : High speed playback.

Frequency difference between the beginning and the end of the tape should be within $\pm 3\%$.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

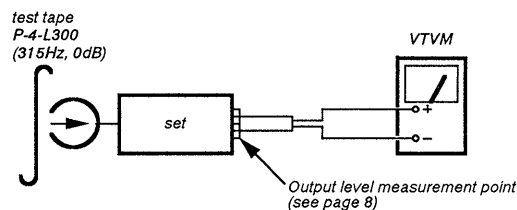
Adjustment Location : AUDIO board.

(see page 10)

Playback Level Adjustment **DECK A** **DECK B**

Procedure :

Mode : Playback



Deck A is RV311(L-CH) and RV411(R-CH), deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

LINE OUT level: $-7.5 \pm 0.5\text{dB}$ (0.31 to 0.35V)

Level Difference between Channels : within 0.5dB

Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

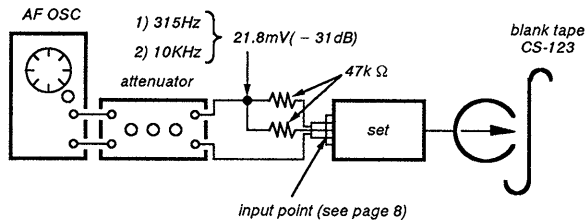
Adjustment Location : AUDIO board.

(see page 10)

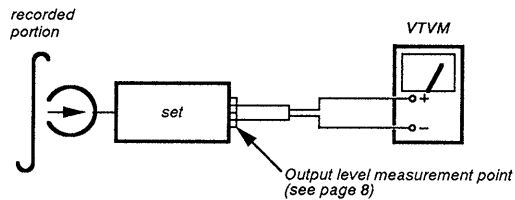
Record Bias Adjustment **DECK B**

Procedure :

1. Record mode



2. Playback mode



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV341 (L-CH) and RV441 (R-CH) to repeat step 1 and 4.

Adjustment level : Playback output of 315Hz to playback output of 10kHz : -0.5dB to 0.5dB .
(-1.3 to 1.3mV)

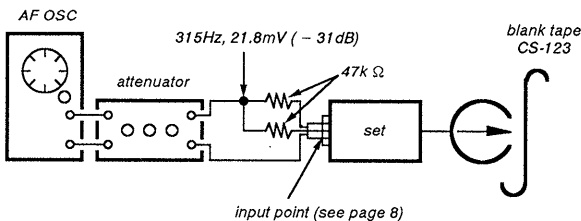
Adjustment Location : AUDIO board. (see page 10)

Record Level Adjustment **DECK B**

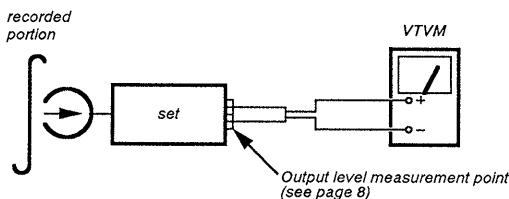
FUNCTION button : CD

Procedure :

1. Record mode



2. Playbacd mode



3. Confirm playback the signal recorded in step become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV401(L-CH) and RV451 (R-CH) to repeat step 1 and 4.

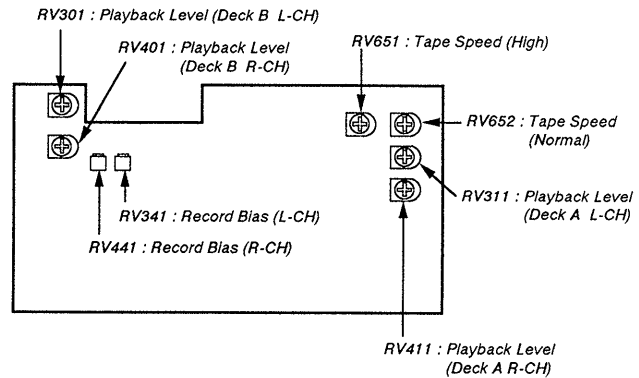
Adjustment Level :

DOLBY OUT level : $-26\text{dB} \pm 0.5\text{dB}$ (36.7 to 41.1mV)

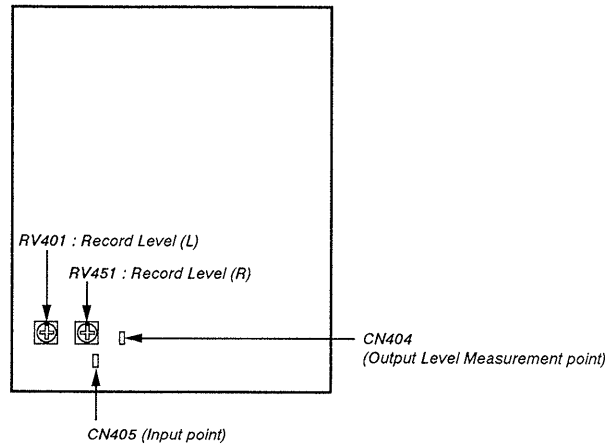
Adjustment Location : MAIN board

Adjustment Location :

[AUDIO BOARD] — Component side —



[MAIN BOARD] — Component side —



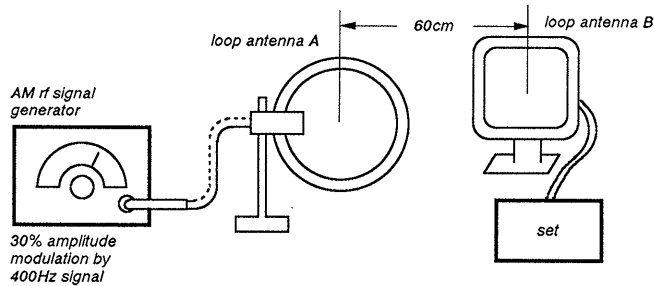
TUNER SECTION

Note. 1 : The adjustment should be performed in the publication.
(AM $\rightarrow$ FM $\rightarrow$ SW)

Note. 2 : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

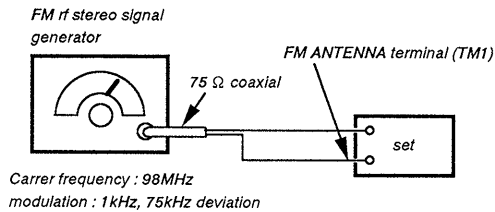
AM Section Adjustment

Setting :



FM Section Adjustment

Setting :



AM Tuned Indication Lighting Level Adjustment

Band : MW

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 3.2mV (70dB μ)
2. Tune the set to 999kHz.
3. Adjust RV41 so that the **TUNED** light up.
4. Confirm that the **TUNED** light off with AM RF SG output level set at 0dB μ .
5. Confirm the FM tuned indication lighting level and adjust if necessary.

Adjustment Location : Main board

FM Tuned Indication Lighting Level Adjustment

Band : FM

Procedure :

1. Supply a 11.2 μ V (21dB μ) 98MHz signal to the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV42 so that the **TUNED** light up.
4. Confirm that the **TUNED** light off with FM RF signal generator output level set at 16dB μ .

Adjustment Location : Main board

SW OSC Voltage Adjustment

Band : SW

(E3, Saudi Arabia, Hong Kong, Malaysia, Singapore model)

Procedure :

1. Connect the VOM to JW376 (OSC)
2. Tune the set to 5.95MHz.
3. Adjust T2 for 1.0 to 1.1V reading on the VOM.
4. Tune the set to 17.90MHz.
5. Adjust CV2 for 8.4 to 8.6V reading on the VOM.

SW Tracking Adjustment

Band : SW

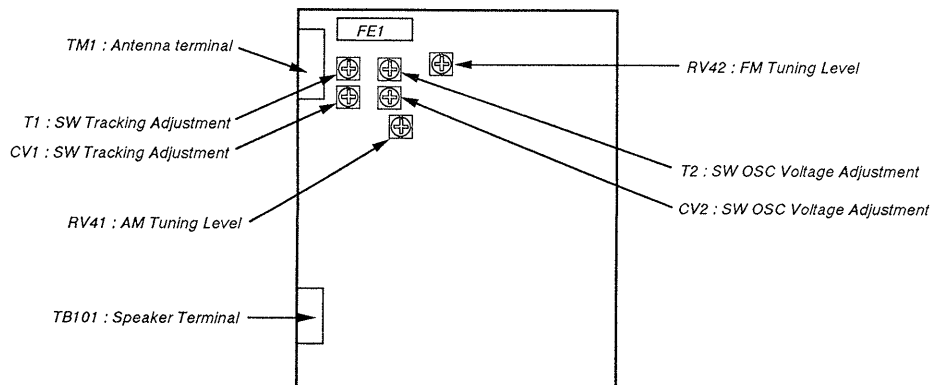
Procedure :

1. Connect the VOM to speaker terminal. (TB101)
2. Adjust for a maximum reading on VOM.

Signal generator and set frequency	Adjustment part
7.0 MHz	T1
17.0 MHz	CV1

Adjustment Location : Main board

[MAIN BOARD] – Component side –



CD SECTION

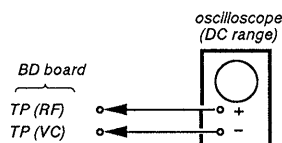
Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10M Ω impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

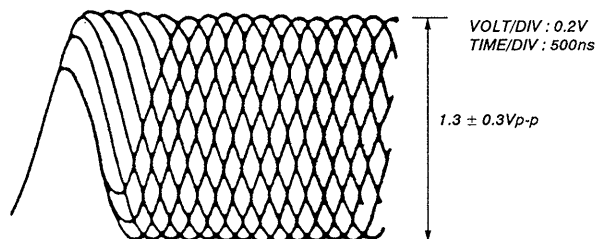
This adjustment is to be done when the optical block is replaced.

Adjustment procedure :



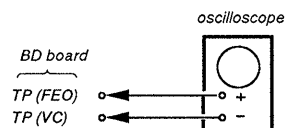
1. Connect oscilloscope to test point TP (VC) and TP (RF) on main board.
2. Turned power switch ON. (Stop mode)
3. Put disc (YEDS-18) in and press the ► button.
4. Press the DISPLAY/ENTER button. (Tracking servo ON)
5. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
6. Release test mode after adjustment is completed.

● RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

S-Curve Check



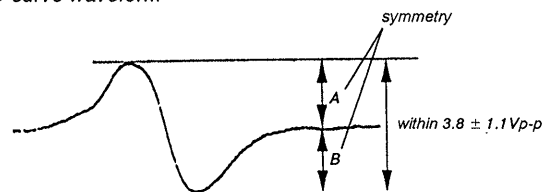
Procedure :

1. Connect oscilloscope to test point TP (FEO) and BD board.
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc

table is moving in and out.)

5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within $3.8 \pm 1.1Vp-p$.

S-curve waveform

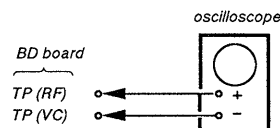


6. After check, remove the lead wire connected in step 2.

Note : ● Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



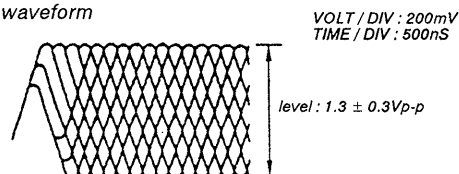
Procedure :

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

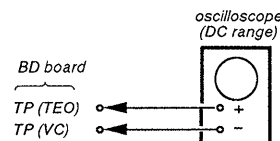
Note :

Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

RF signal waveform



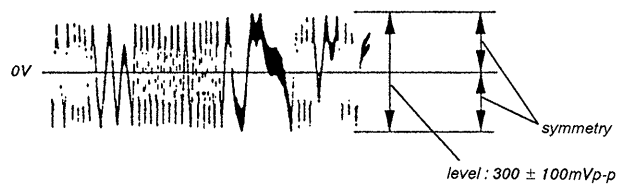
E-F Balance Check



Procedure :

1. Ground main board IC101 pin 56 with the lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse waveform



6. Remove the lead wire connected in step 1.

Focus/Tracking Gain

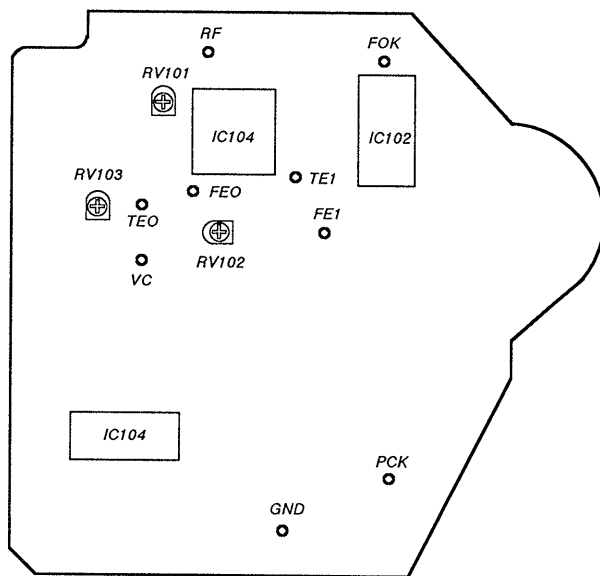
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[BD BOARD] — Component side —



SECTION 5

EXPLANATION OF IC TERMINALS

IC101 TMP87CP64F-6254

Pin No.	Pin name	I/O	Description															
1	Vss	—	GND															
2	X OUT	O	Main system clock. (8MHz)															
3	X IN	I																
4	AC. CUT	I	Reset signal input terminal.															
5	X OUT	O	Sub system clock. (32.768kHz)															
6	X IN	I																
7	GND	—	GND															
8	BACK UP	I	BACK-UP mode input terminal.															
9	COUNT SW	—	Not used. (GND)															
10	INIT SW	—	Not used. (GND)															
11	DISC SENS	—	Not used. (GND)															
12	MID SENS	—	Not used. (GND)															
13	CD XRST	O	CD Reset output. “L” : RESET															
14	POWER	O	Power on output. “L” : ON															
15	MUTE	O	Mute output. “L” : MUTE															
16	MPX	O	MPX Control output.															
17	KEYCON LATCH	—	Not used. (OPEN)															
18	VOL LATCH	O	Latch output to volume control. (TC9210P)															
19	K. PON A	—	Not used. (OPEN)															
20	K. PON B	—	Not used. (OPEN)															
21	FUNC A	O	Function Select. <table><tr><td>FUNCTION</td><td>FUNC A</td><td>FUNC B</td></tr><tr><td>ST</td><td>L</td><td>L</td></tr><tr><td>CD</td><td>L</td><td>H</td></tr><tr><td>TC</td><td>H</td><td>L</td></tr><tr><td>AUX</td><td>H</td><td>H</td></tr></table>	FUNCTION	FUNC A	FUNC B	ST	L	L	CD	L	H	TC	H	L	AUX	H	H
FUNCTION	FUNC A	FUNC B																
ST	L	L																
CD	L	H																
TC	H	L																
AUX	H	H																
22	FUNC B	O																
23	FUNC C	—	Not used. (OPEN)															
24	GEQ. LATCH	O	Latch output to gray control. (M62423FP)															
25	RDS. INT	I	RDS DATA START Signal input.															
26	SCOR (DSP)	I	Sub-code sync SO+SI detection input from DSP. (CXD2507AQ)															
27	SENS	I	SENS input from DSP. (CXD2507AQ)															
28	CD POWER	O	Power on output. “H” : ON															
29	CDG LATCH	—	Not used. (OPEN)															
30	DBFB	O	DBFB Select output. “H” : DBFB LOW “L” : DBFB HIGH															
31	MUTE	O	TUNER MUTE Output.															
32	CE	O	Chip enable output to tuner PLL IC (LC72130)															
33	STEREO	I	FM/AM Stereo identification. “L” : STEREO															
34	TUNED	I	FM/AM Tuning identification. “L” : TUNING															
35	SQ-RDS-CLK	O	Sub-code Q data scanning clock output to DSP (CXD2507AQ), RDS clock output.															
36	SQ-RDS-DI	I	Sub-code Q data input from DSP (CXD2507AQ), RDS data input.															
37	RDS-RESET	O	RDS Reset signal output.															
38	CLK	O	System clock output.															
39	D. IN	I	Serial data input from tuner.															
40	D. OUT	O	Serial data (COMN) output.															
41	TABLE SENS	—	Not used. (OPEN)															
42	REQ GM	I	Data transmission request input from system control.															

Pin No.	Pin name	I/O	Description
43	REQ MG	O	Data transmission request output to system control.
44	CLK MG	O	Clock output for communications with system control.
45	D. GM	I	Serial data input form system control.
46	D. MG	O	Serial data output to system control.
47	RDY	I/O	System control Ready signal input/output. "L" : READY
48	VAREF	—	Power supply. (+5V)
49	VASS	—	GND
50	Vss	—	GND
51	VDD	—	Power supply (+5V)
52	URGENT. SIG	I	Not used. (+5V)
53	URGENT. STBY	I	Not used. (OPEN)
54	BUG Y/ $\bar{N}$	—	Not used. (GND Connected)
55	ADJUSTOR	—	Not used. ("H" LEVEL)
56	ADJUST2	—	Not used. ("H" LEVEL)
57	MAGIC SPEED	—	Not used. ("H" LEVEL)
58	SPEC	I	SPECIFICATION Select input. (A/D Converter)
59	DIST	I	Model Select input. (A/D Converter)
60	SPEED	—	Not used. ("H" LEVEL)
61	BREAK	—	Not used. ("H" LEVEL)
62	B-PLAY	I	Deck-B PLAY Switch input. "H" : PLAY
63	B-SHUT	I	Deck-B Reel table signal input.
64	B-HALF	I	Deck-B Record prevention claw A, B detection input.
65	A-SHUT	I	Deck-A Reel table signal input.
66	A-PLAY	I	Deck-A PLAY Switch input. "H" : PLAY
67	A-HALF	I	Deck-A HALF SW input.
68	CAPM H/L	O	Capstan motor speed selector. "H" : Normal speed "L" : High speed
69	CAPM ON/OFF	O	Capstan motor ON/OFF. "L" : ON
70	TRIG H/L	O	Trigger motor control output.
71	B TRG	O	
72	A TRG	O	
73	RELAY	O	Control output to REC/PB select switch. (IC602)
74	A/B	O	Dolby IC PB input Deck A/B select output. "L" : A, "H" : B
75	NORM/HIGH	O	EQ Select switch output for normal/high speed. "H" : High speed
76	BIAS ON/OFF	O	BIAS Oscillation ON/OFF control. "H" : ON
77	RM ON/OFF	O	REC Mute output. "L" : MUTE
78	REC/PB	O	DOLBY IC REC/PLAY Select output. "H" : REC
79	NR	O	DOLBY ON/OFF Control output. "H" : ON
80	LM	O	LINE Mute output. "L" : MUTE
81	PASS	O	PASS Amplifier switch output to DOLBY IC. (IC401)
82	CDG. MUTE	—	Not used. (OPEN)
83	UP MOTOR	—	Not used. (OPEN)
84	DOWN MOTOR	—	Not used. (OPEN)
85	TABLE R	—	Not used. (OPEN)
86	TABLE L	—	Not used. (OPEN)
87	LOAD OUT	O	Loading motor (M903) Load out output.
88	LOAD IN	O	Loading motor (M903) Load in output.
89	DF-LATCH	O	Latch output to digital filter. (PCM1701U)

Pin No.	Pin name	I/O	Description
90	XLT	O	Serial data latch output to DSP. (CDX2507AQ)
91	FOCUS SW	O	High-region gain down output to focus servo. (CXA1782BQ)
92	HIGH DUBB	—	Not used. (“H” LEVEL)
93	TEST 1	—	Not used. (“H” LEVEL)
94	OUT SW	I	CD Tray output detection input.
95	IN SW	I	CD Tray input detection terminal.
96	UP SW	—	Not used. (GND)
97	PANEL SW	—	Not used. (GND)
98	CLOSE SW	—	Not used. (GND)
99	OPEN SW	—	Not used. (GND)
100	V _{DD}	—	Power supply. (+5V)

IC110 M34225M1-294FP

Pin No.	Pin name	I/O	Description
1	RESET	I	Reset signal input terminal.
2	INT	I	Emergency broadcast input.
3	AVSS	—	GND
4	VREF	—	+5V
5	SELECT	—	Not used. (Connected to GND)
6	—	—	Not used. (Connected to GND)
7	AVDD	—	Power supply.
8	S0	—	Not used. (OPEN)
9	—	—	Not used. (OPEN)
10	TEST LED	O	TEST LED Output. “L” : ON
11	URGENT LED	O	WARNING LED Output. “L” : ON
12	STANDBY LED	O	STANDBY LED Output. “L” : ON
13	—	—	Not used. (OPEN)
14	—	—	Not used. (OPEN)
15	STANDBY OK	O	STANDBY OK Signal input.
16	POWER	I	Power on signal input.
17	—	—	Not used. (Connected to GND)
18	V _{ss}	—	GND
19	URGENT SIG.	O	URGENT Signal output.
20 – 25	—	—	Not used. (Connected to GND)
26	—	—	Not used. (OPEN)
27	STANDBY KEY	I	EWS ON/OFF Key input.
28 – 30	—	—	Not used. (Connected to +5V)
31, 32	—	—	Not used. (OPEN)
33	X OUT	O	} System clock. (4MHz)
34	X IN	I	
35	CNTR	—	Not used. (Connected to GND)
36	V _{DD}	—	Power supply. (+5V)

IC501 CXP82612-006Q

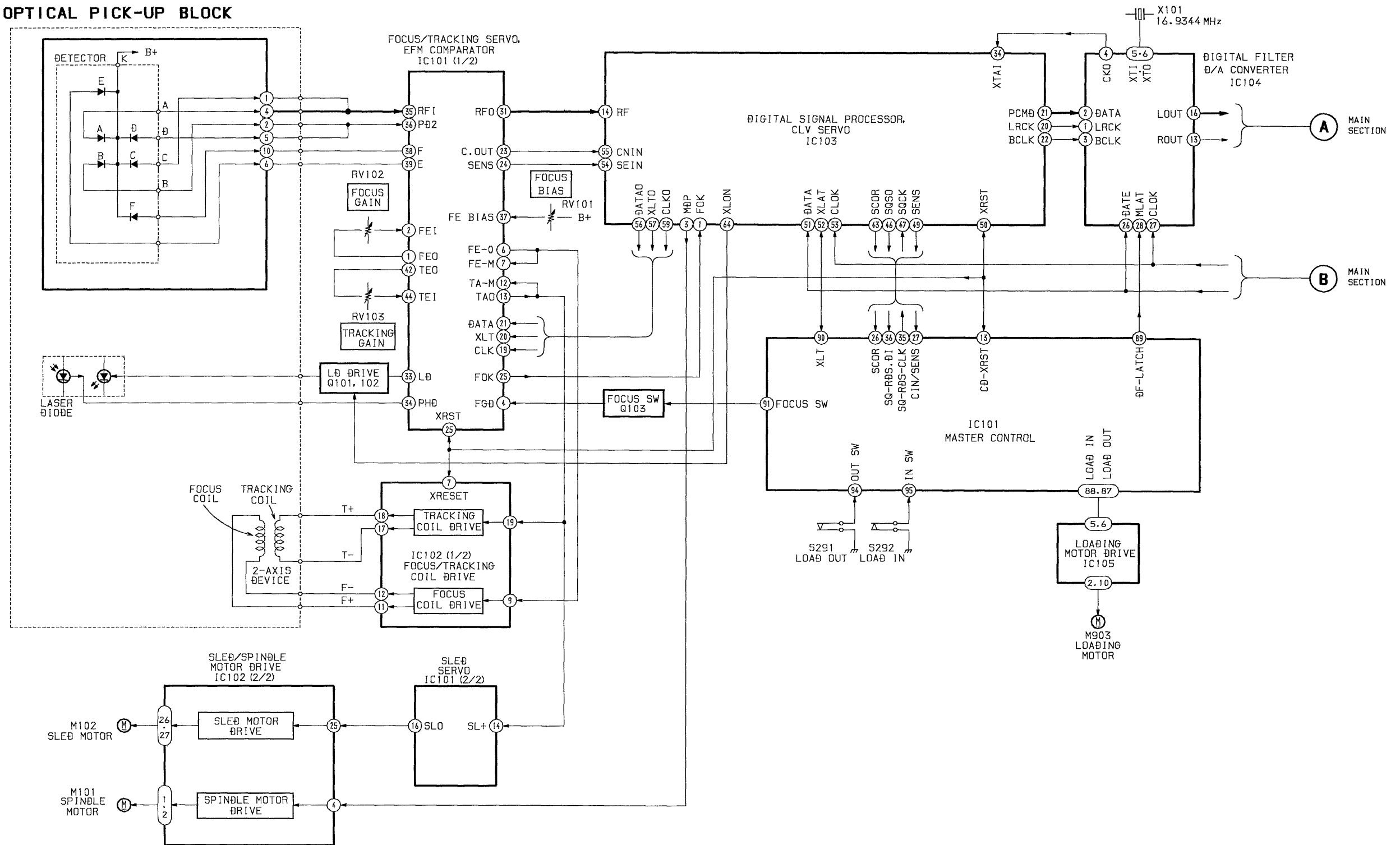
Pin No.	Pin name	I/O	Description
1	ENC1A	I	Volume encoder input terminal.
2	SIRCS	I	Remote commander signal input.
3	REQ. MG	I	Data transmission request input from master control.
4	REQ. GM	O	Data transmission request output to master control.
5	LED1	O	LED DRIVE Output.
6	LED2	O	Not used. (OPEN)
7	LED3	—	Not used. (OPEN)
8	LED4	—	Not used. (OPEN)
9	LED5	O	PLAY, PAUSE LED Output.
10	RDY	I/O	Master control Ready signal input/output. “L” : Ready
11	SCK. IN	I	Clock output for communications with master control.
12	SD. IN	I	Serial data input from master control.
13	SD. OUT	O	Serial data output to master control.
14	LED6	O	REC, PAUSE LED Output.
15	LED7	O	ROCK, USER FILE LED Output.
16	LED8	O	JAZZ, POPS LED Output.
17	LED9	O	CLASSIC, DANCE LED Output.
18	LED10	O	TUNER LED Output.
19	LED11	O	CD, TIMER LED Output.
20	LED12	O	ENTER/NEXT, TUNER/BAND LED Output.
21	LED13	O	A, B LED Output.
22	KEY1	I	Key input. (A/D Converter)
23	KEY2	I	
24	KEY3	I	
25	KEY4	I	
26	BPF1	I	SPEANA Signal input terminal.
27	BPF2	I	
28	BPF3	I	
29	BPF4	I	
30	$\overline{\text{RST}}$	I	Reset signal input terminal.
31	X IN	I	System clock. (4MHz)
32	X OUT	O	
33	V _{ss}	—	GND
34	AN1	O	LCD Drive.
35	AN2	O	
36	AN3	O	
37	AN4	O	
38	AN5	O	
39	AN6	O	
40	AN7	O	

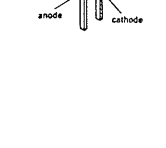
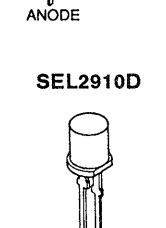
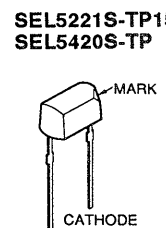
Pin No.	Pin name	I/O	Description
41	AN8	O	} LCD Drive.
42	AN9	O	
43	AN10	O	
44	AN11	O	
45	AN12	O	
46	AN13	O	
47	AN14	O	
48	AN15	O	
49	AN16	O	
50	AN17	O	
51	AN18	O	
52	AN19	O	
53	AN20	O	
54	AN21	O	
55	AN22	O	
56	AN23	O	
57	AN24	O	
58	AN25	O	
59	GR1	O	
60	GR2	O	
61	GR3	O	
62	GR4	O	
63	GR6	O	
64	GR7	O	
65	GR8	O	
66	GR9	O	
67	GR10	O	
68	GR11	O	
69	GR12	O	
70	VFDP	—	LCD Drive — 25V power supply.
71	V _{DD}	—	Power supply. (+5V)
73	POWER KEY	I	System power key input.
74	EZ KEY	I	Not used. (+5V)
75	V _{DD}	—	Power supply. (+5V)
76	LED14	O	Forward play, Revers play LED output.
77	LED15	O	KARAOKE PON LED Output.
78	ENC 2B	I	} AMS ENCODER Input terminal.
79	ENC 2A	I	
80	ENC 1B	I	Volume ENCODER input terminal.

SECTION 6 DIAGRAMS

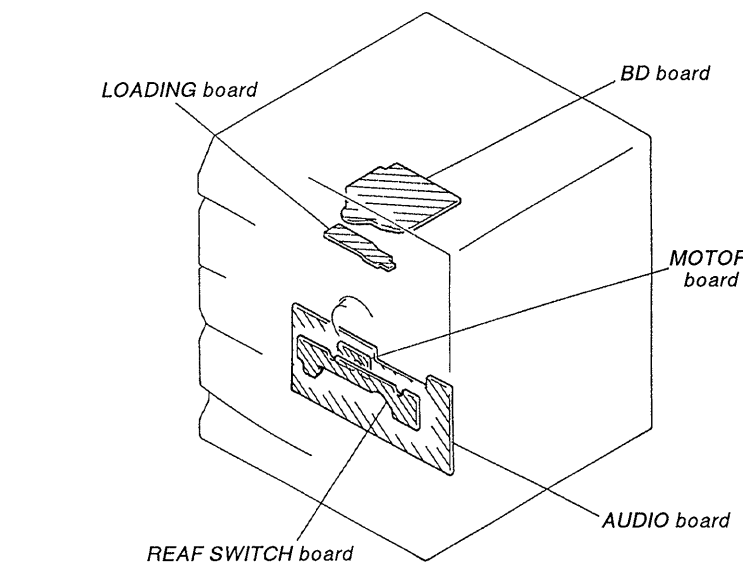
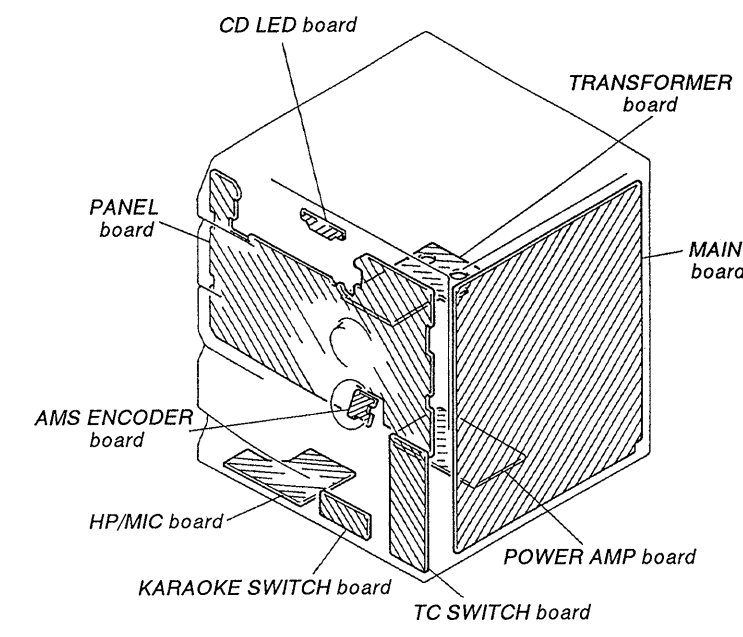
6-1. BLOCK DIAGRAM – CD SECTION –

OPTICAL PICK-UP BLOCK





6-3. CIRCUIT BOARD LOCATION



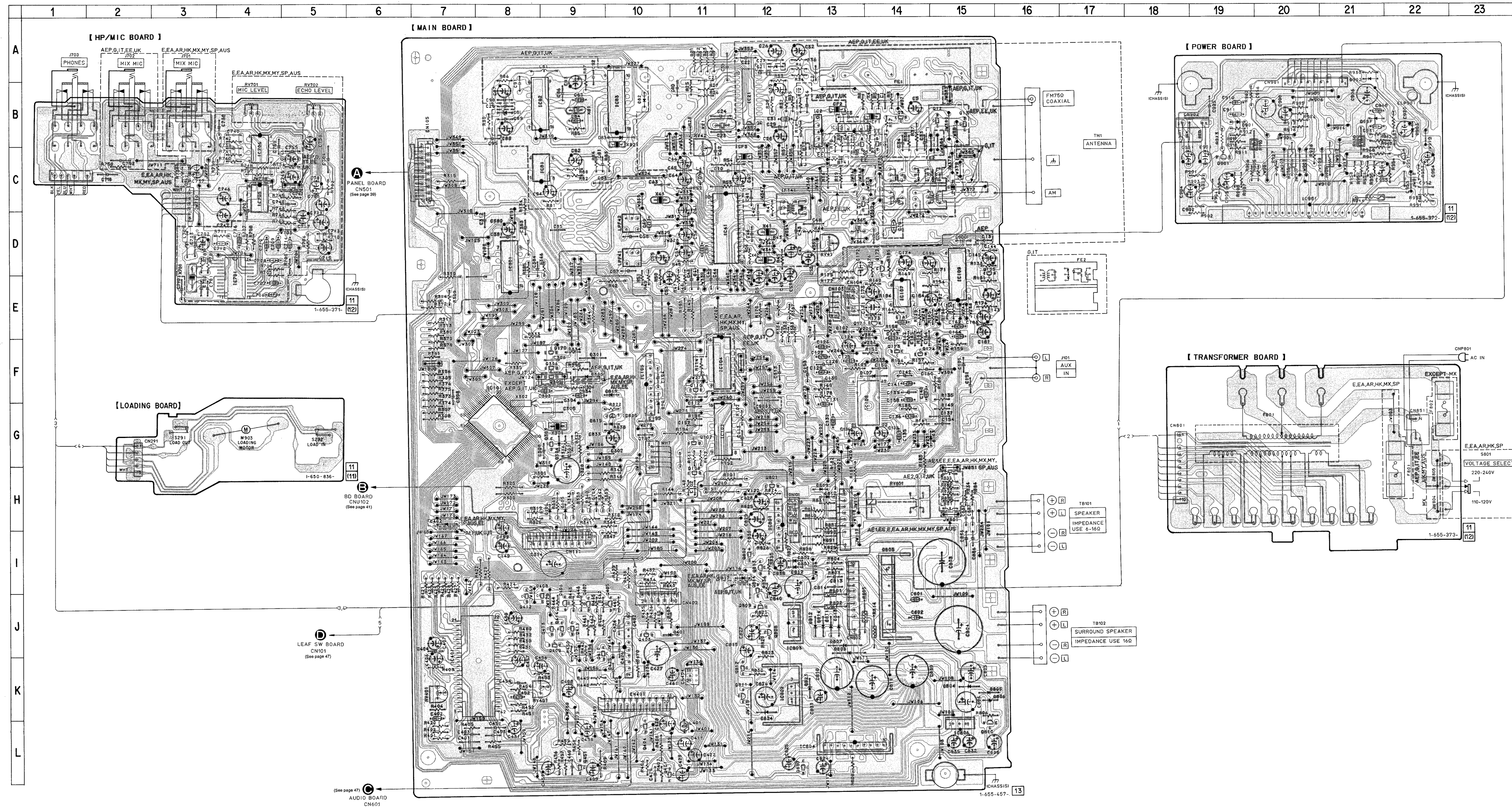
● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D21	A-12	IC402	J-10
D41	E-11	IC701	E-4
D82	B-10	IC705	C-5
D101	F-11	IC706	C-5
D102	E-14	IC801	H-13
D103	G-15	IC802	K-13
D104	H-10	IC803	J-13
D105	H-9	IC804	L-13
D106	H-9	IC805	G-10
D107	F-14	IC806	L-15
D301	F-10	IC901	C-20
D302	G-10		
D304	G-9		
D305	F-10		
D401	J-11	Q3	B-14
		Q11	C-14
		Q12	B-15
D402	H-7	Q13	B-15
D801	I-13	Q14	C-15
D802	I-13		
D803	I-14	Q105	D-16
D804	K-15	Q107	G-11
		Q108	H-11
		Q110	F-11
		Q170	F-9
D805	K-16		
D806	K-16		
D807	J-14	Q171	E-14
D808	J-14	Q172	D-14
D809	H-13	Q173	F-14
		Q174	F-15
D810	H-13	Q303	G-9
D811	J-13		
D812	J-13	Q305	F-9
D813	J-13	Q306	F-9
D814	G-10	Q401	L-11
		Q403	J-10
D815	G-10	Q404	L-10
D817	I-12		
D819	F-10		
D823	K-13	Q405	J-10
D824	K-12	Q406	J-9
		Q407	J-10
D901	B-19	Q408	J-9
D902	A-21	Q409	J-9
D903	B-22		
D951	B-21	Q410	J-10
		Q411	J-9
		Q412	J-9
		Q413	J-9
		Q414	J-9
IC1	B-14	Q451	L-10
IC2	B-13	Q801	H-12
IC21	B-12	Q802	I-12
IC41	D-12	Q807	L-13
IC81	C-9	Q808	J-12
IC82	B-9		
IC83	B-10		
IC101	G-8		
IC102	G-12	Q809	J-12
IC104	F-12	Q810	K-16
		Q811	K-12
IC105	F-11	Q812	K-12
IC107	E-14	Q813	I-12
IC108	F-14		
IC109	D-15	Q814	I-12
IC301	D-8	Q901	C-19
		Q951	C-22
IC401	K-8		

Note:

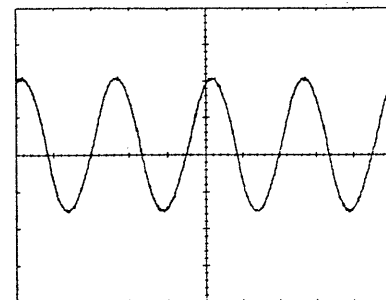
- : parts extracted from the component side.
- : Pattern on the side which is seen.
- Abbreviations
 - G : German
 - IT : Italian
 - AUS : Australian
 - EA : Saudi Arabia
 - EE : East European
 - AR : Argentine
 - HK : Hong Kong
 - MX : Mexican
 - MY : Malaysia
 - SP : Singapore

6-4. PRINTED WIRING BOARDS – MAIN SECTION – ● Refer to page 24 for Semiconductor Lead Layouts.

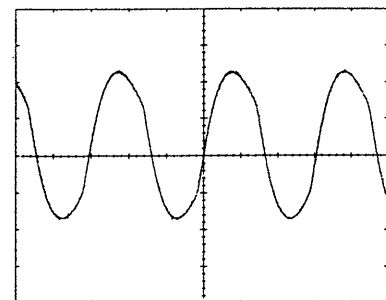


• WAVEFORMS

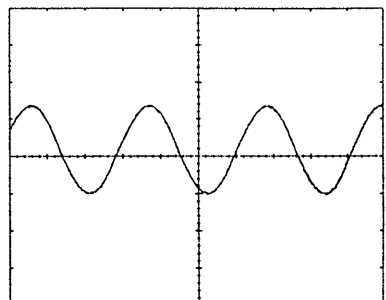
⑬ IC101 @pin 3.6Vp-p 8MHz



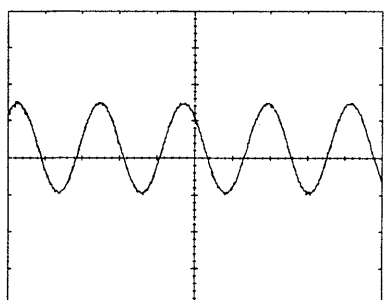
⑭ IC101 @pin 4Vp-p 32.8kHz



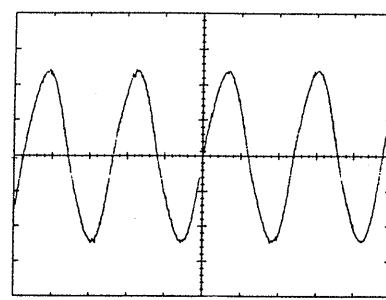
⑮ IC701 @pin 4.7Vp-p 320kHz



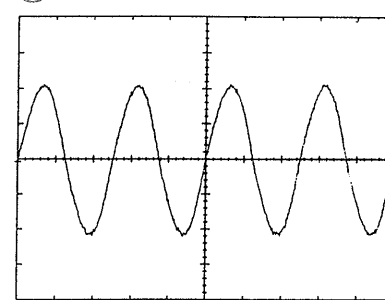
⑯ IC21 @pin 2.5Vp-p 4.5MHz



⑰ IC82 @pin 4.0Vp-p 4.332MHz



⑱ IC83 @pin 3.7Vp-p 4MHz



Note :

- All capacitors are in μ F unless otherwise noted; pF; μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $k\Omega$ or less unless otherwise specified.
- Δ : internal component.
- $\square$: nonflammable resistor.
- $\square$: fusible resistor.

Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- $\square$: B+ Line
- $\square$: B - Line
- $\square$: adjustment for repair.

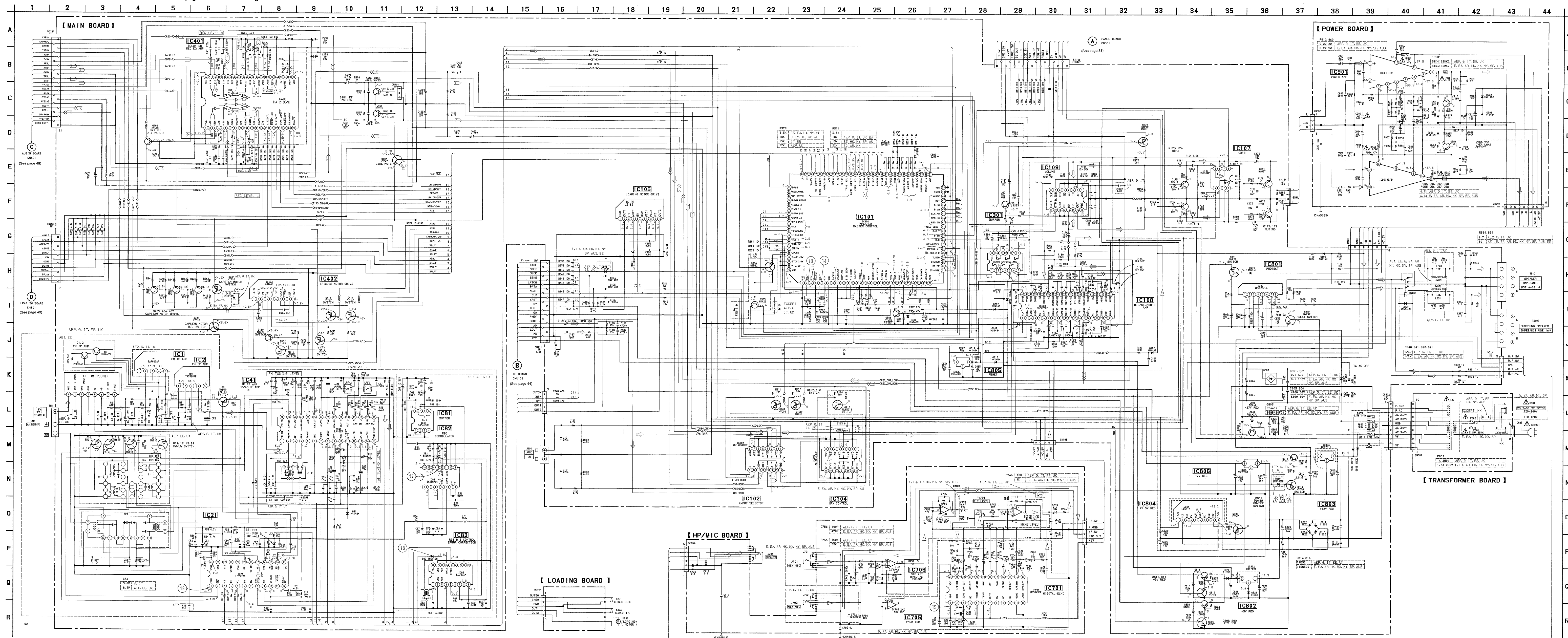
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : AM
- () : PLAY (DECK A)
- [] : REC (DECK B)

• Voltages are taken with a VOM (Input impedance $10M\Omega$). Voltage variations may be noted due to normal production tolerances.

- Waveforms are taken with an oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: FM : PB (DECK A)
- $\Rightarrow$: AM : REC (DECK)
- $\Rightarrow$: PB (DECK B)
- $\Rightarrow$: CD
- $\Rightarrow$: MIC

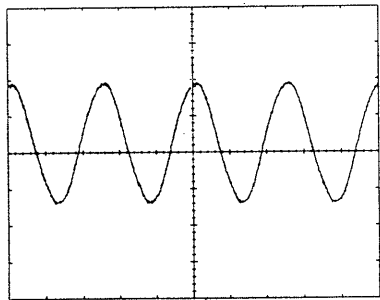
- Abbreviations
- G : German
- IT : Italian
- EE : East European
- AUS : Australian
- EA : Saudi Arabia
- AR : Argentina
- HK : Hong Kong
- KX : Mexican
- MY : Malaysia
- SP : Singapore

6-5. SCHEMATIC DIAGRAM - MAIN SECTION - Refer to page 51 for IC Block Diagrams.



• WAVEFORMS

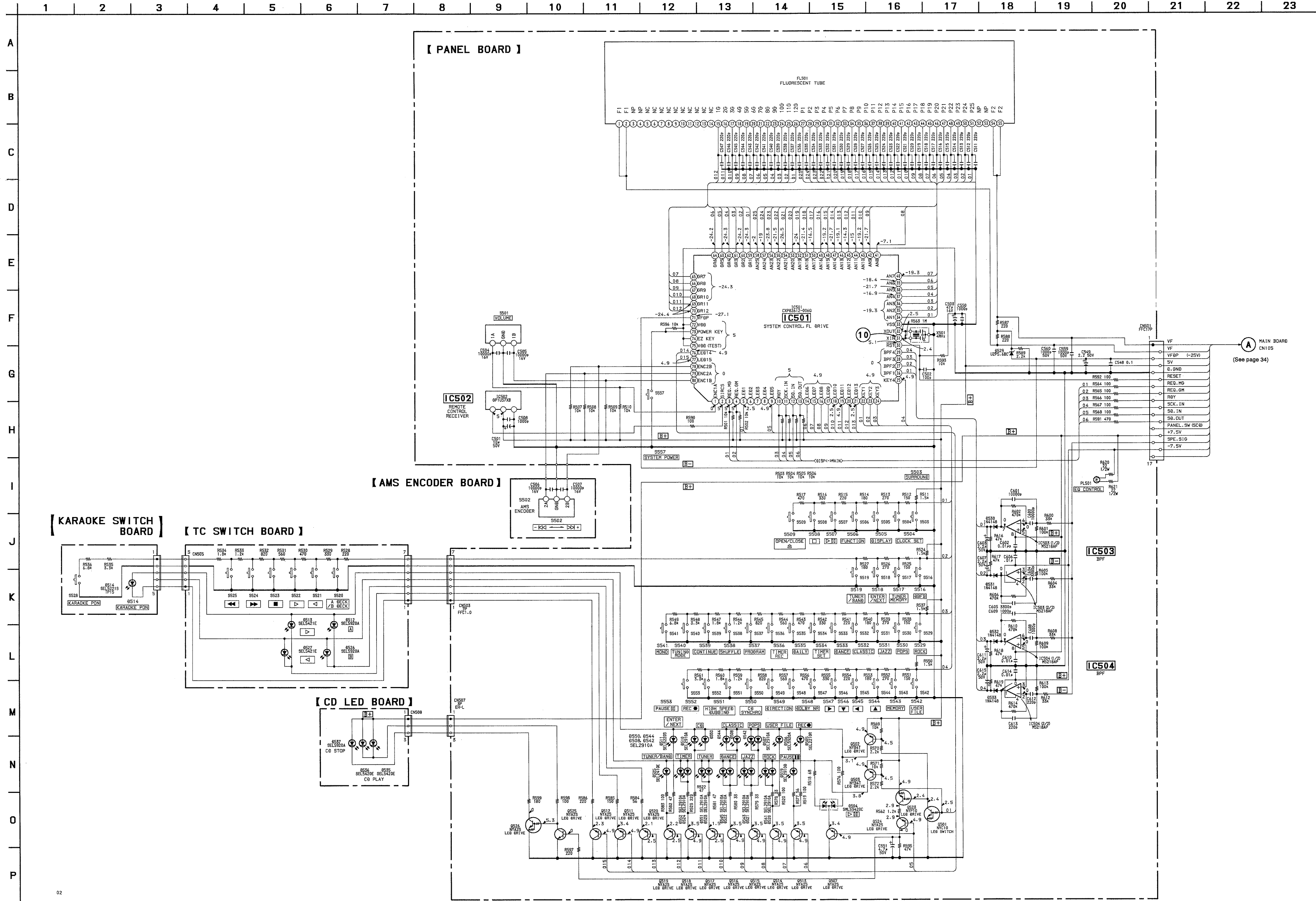
⑩ IC501 @pin 3.4Vp-p 4MHz



Note :

- All capacitors are in μ F unless otherwise noted, pF; μ μ F 50WV or less are not indicated except for electrolytics and tantalums
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- Δ : internal component.
- **[B+]** : B+ Line
- **[B-]** : B- Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

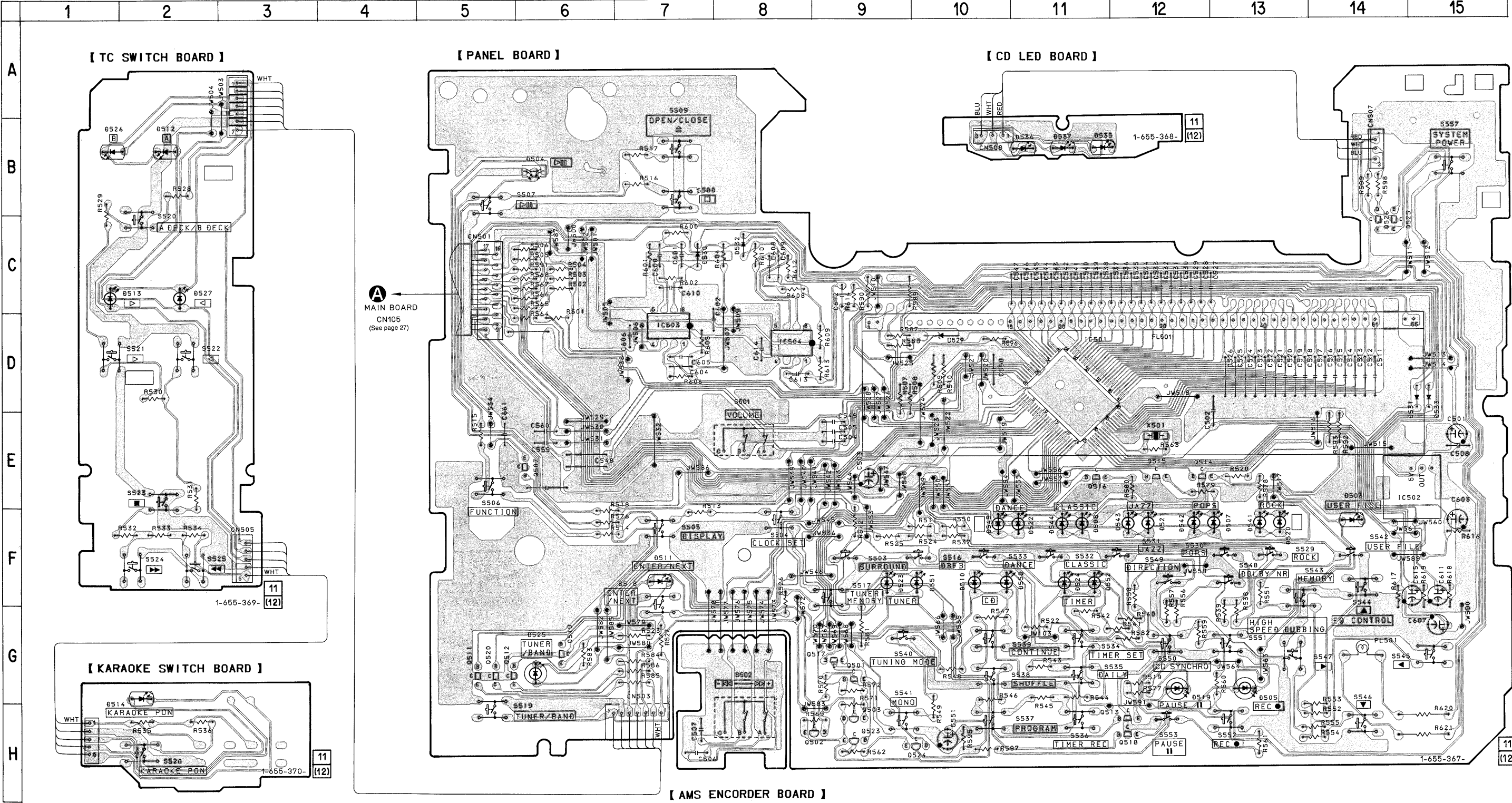
6-6. SCHEMATIC DIAGRAM – PANEL SECTION –



• SEMICONDUCTOR LOCATION

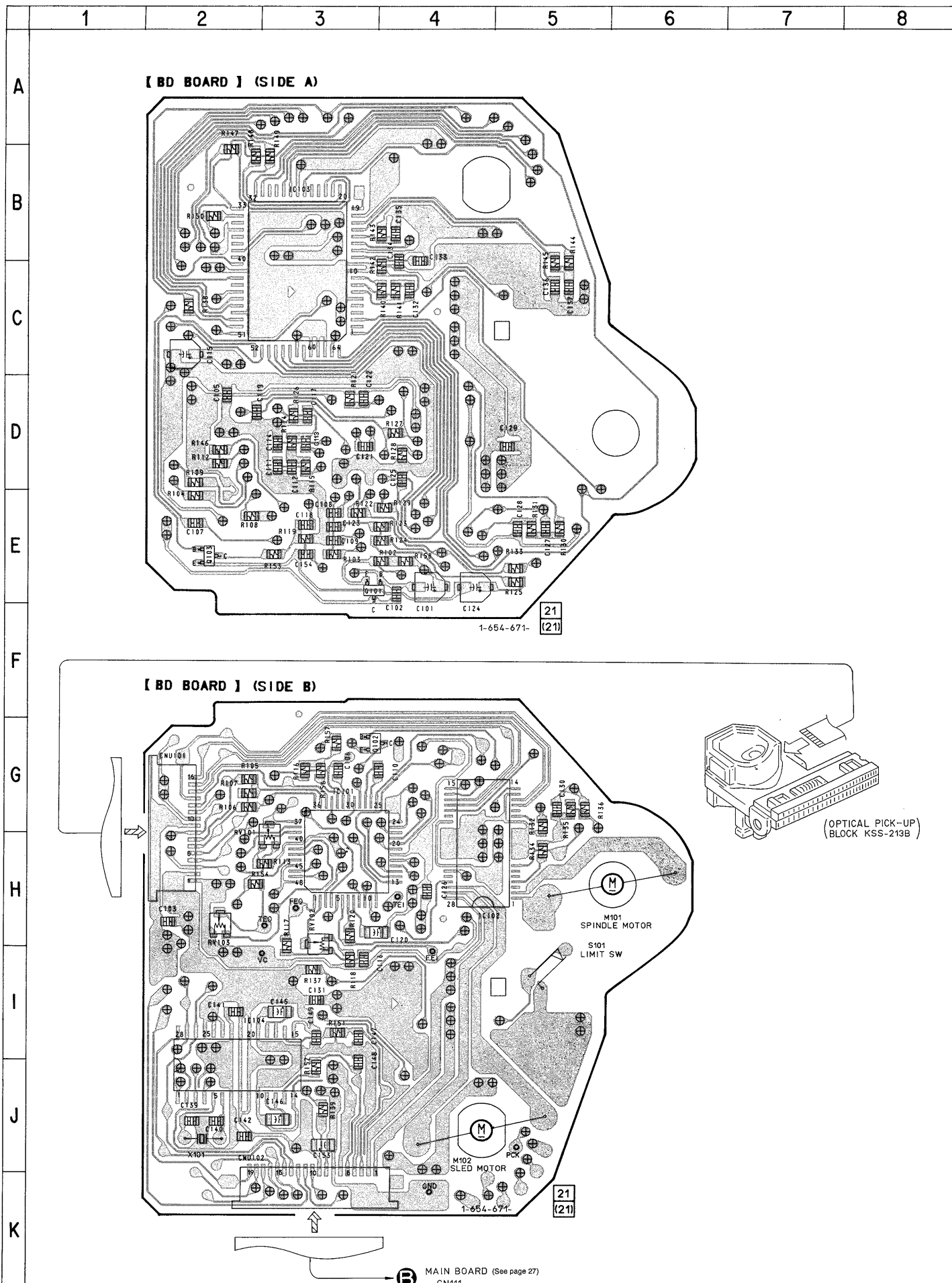
Ref. No.	Location	Ref. No.	Location
D504	B - 6	D544	F - 11
D505	G - 13	D545	F - 10
D506	F - 14	D550	F - 10
D507	F - 13	D551	F - 10
D508	F - 11	D552	F - 11
D510	F - 10		
D511	F - 7	IC501	D - 11
D512	B - 2	IC502	E - 15
D513	C - 1	IC503	D - 7
D514	G - 2	IC504	D - 8
D519	G - 12		
D520	F - 13	Q501	G - 9
D521	F - 12	Q502	H - 8
D522	F - 11	Q503	H - 9
D523	F - 9	Q507	E - 6
		Q511	G - 5
D524	F - 11		
D525	G - 6	Q512	G - 5
D526	B - 1	Q513	H - 12
D527	C - 2	Q514	E - 12
D529	D - 10	Q515	E - 12
		Q516	E - 11
D530	C - 7		
D531	D - 15	Q517	G - 9
D532	C - 8	Q518	H - 12
D533	D - 15	Q519	G - 6
D535	B - 11	Q520	G - 5
		Q523	H - 9
D536	B - 11		
D537	B - 11	Q524	H - 10
D541	F - 13	Q525	C - 14
D542	F - 12	Q526	C - 14
D543	F - 12		

6-7. PRINTED WIRING BOARDS – PANEL SECTION – • Refer to page 24 for Semiconductor Lead Layouts.



Note:

- : parts extracted from the component side.
- : Pattern on the side which is seen.



SEMICONDUCTOR LOCATION

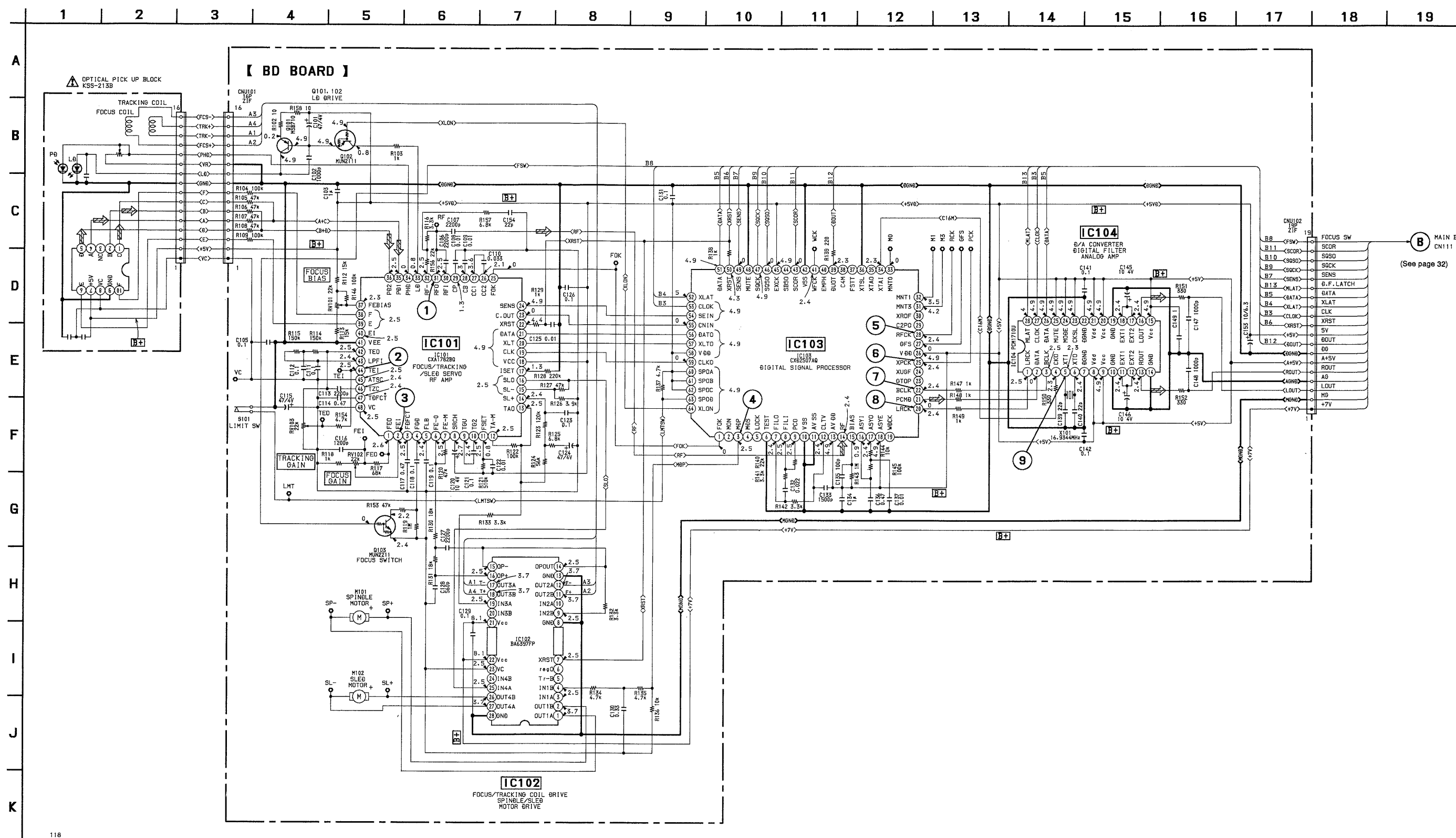
Ref. No.	Location
IC101	H-3
IC102	H-4
IC103	B-3
IC104	I-2
Q101	E-3
Q102	G-3
Q103	E-2

Note:

- ⊗ : Through hole.
- ⊙ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

Caution :

Pattern face side : Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
Parts face side : Parts on the parts face side seen from the (Component side) parts face are indicated.



Note :

- All capacitors are in μ F unless otherwise noted, pF: μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- Δ : internal component.

Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- B+** : B+ Line
- B-** : B- Line
- : adjustment for repair.

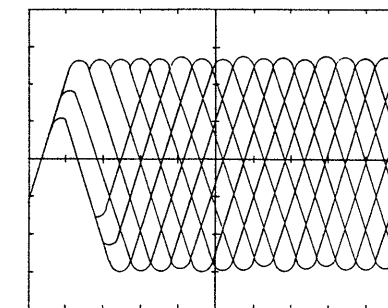
- Voltage and waveforms are dc with respect to ground under no-signal (CD) conditions.
- no mark : STOP

- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

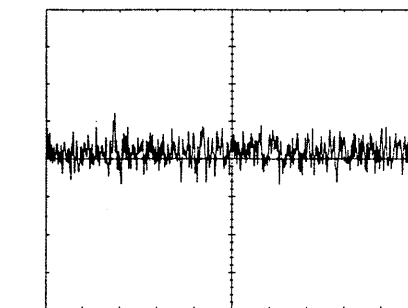
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: CD

WAVEFORMS

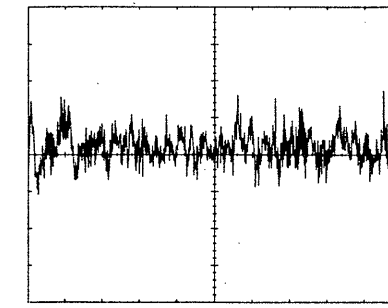
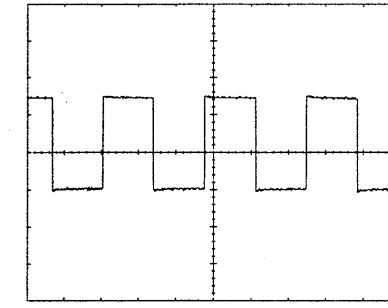
① IC101 @pin 1.4Vp-p



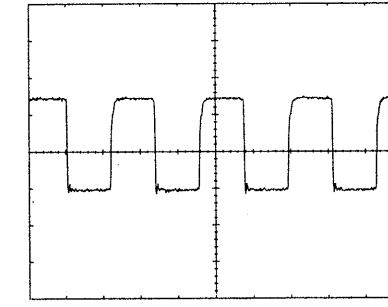
② IC101 @pin 8mVp-p 0.2ms/DIV



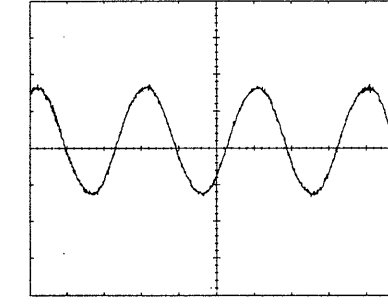
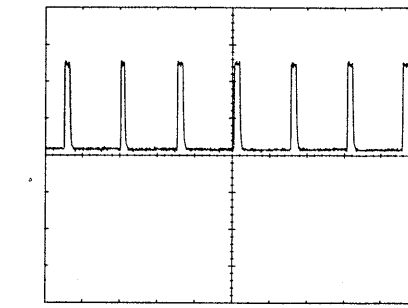
③ IC101 @pin 20mVp-p 2ms/DIV

⑤ IC103 @pin 5.1Vp-p 137 μ sec

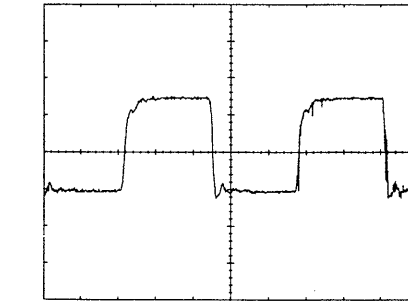
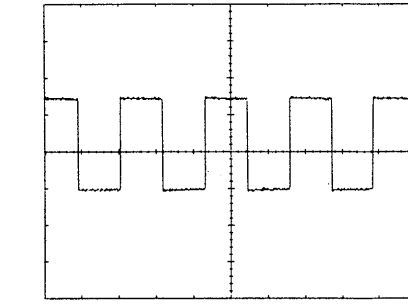
⑦ IC103 @pin 5.1Vp-p 472.7nsec



⑨ IC104 @pin 3Vp-p 16.9344MHz

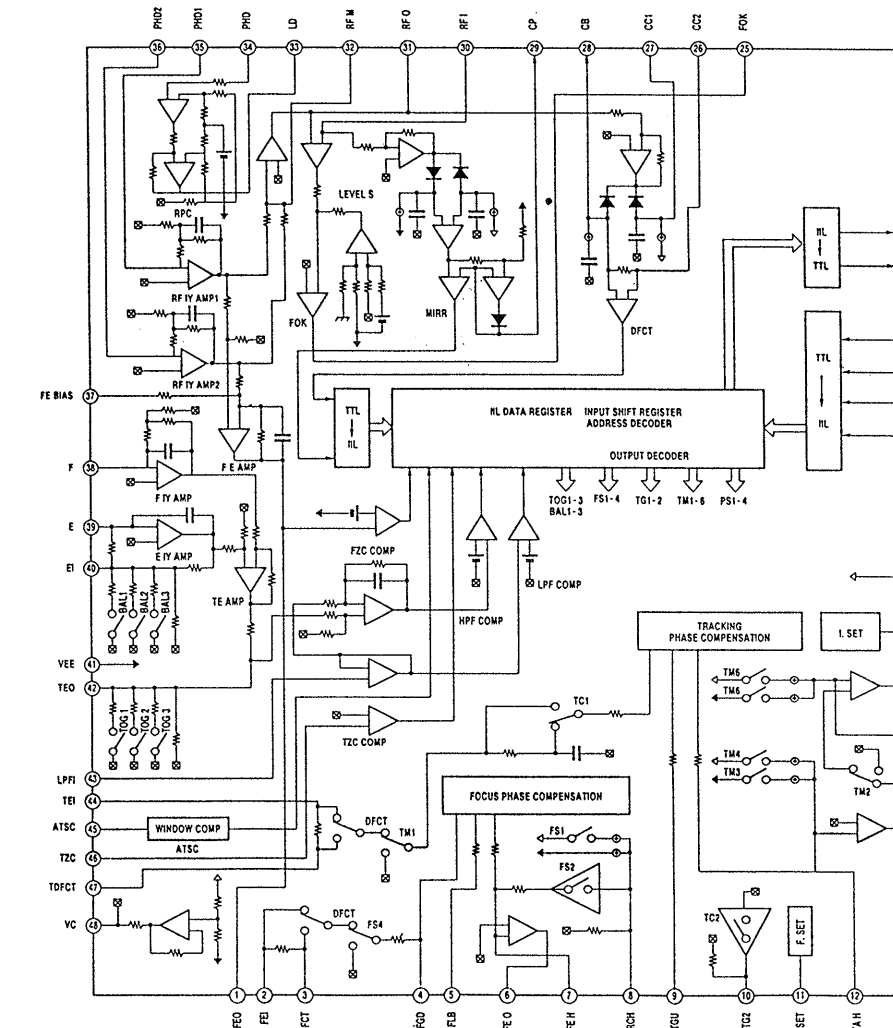
④ IC103 @pin 2.4Vp-p 7.5 μ sec

⑥ IC103 @pin 5.1Vp-p 232.7nsec

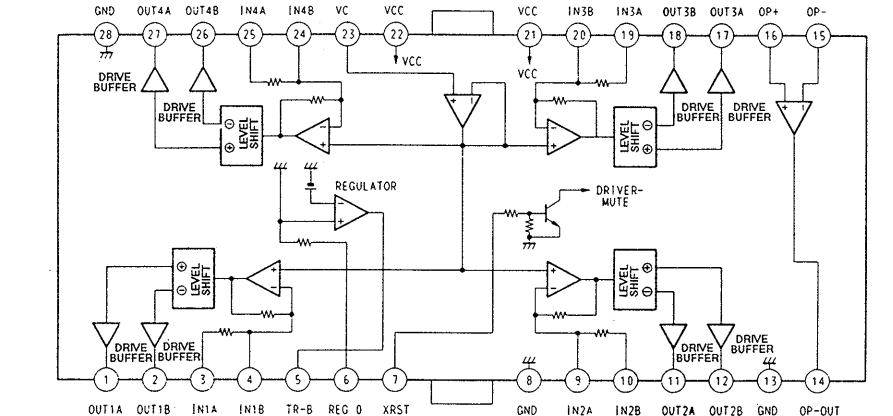
⑧ IC103 @pin 5.1Vp-p 23 μ sec

IC BLOCK DIAGRAMS — BD SECTION —

IC101 CXA1782BQ



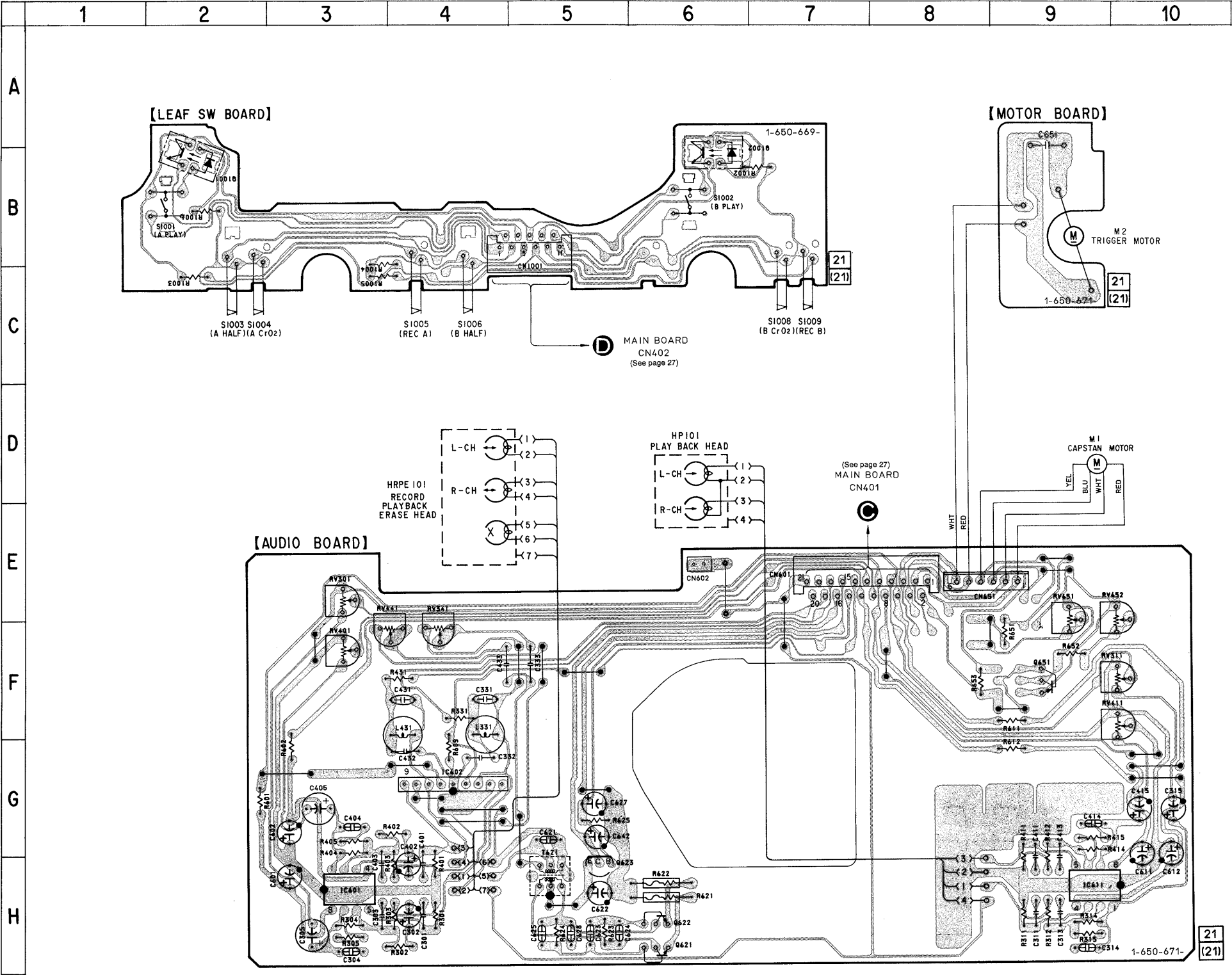
IC102 BA6397FP-T1



6-10. PRINTED WIRING BOARDS – AUDIO SECTION – • Refer to page 24 for Semiconductor Lead Layouts.

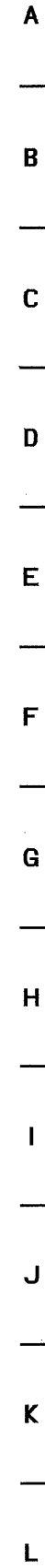
• SEMICONDUCTOR LOCATION

Ref. No.	Location
IC601	H - 3
IC602	G - 4
IC611	H - 9
Q621	H - 6
Q622	H - 6
Q623	H - 5
Q651	F - 9
Q1001	B - 2
Q1002	B - 6

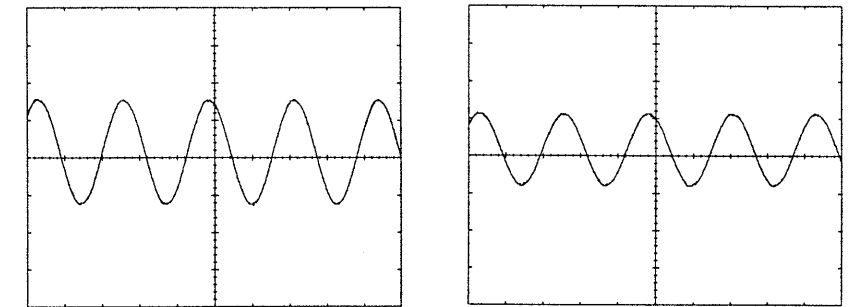
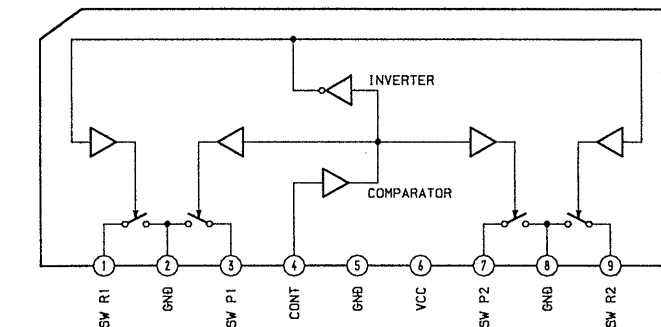


Note:

• ○ : parts extracted from the component side.



⑪ T621 141Vp-p 88.1kHz ⑫ T621 39.2Vp-p 88.1kHz

IC602 μ PC1330HA

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- : fusible resistor.

- **B+** : B+ Line

- **B** — : B — Line

- ☐ : adjustment for repair.

- Voltage and waveforms are dc with respect to ground under no-signal (TC) conditions.

no mark : PLAY

() : REC

- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.

- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.

- Circled numbers refer to waveforms.

- Signal path.

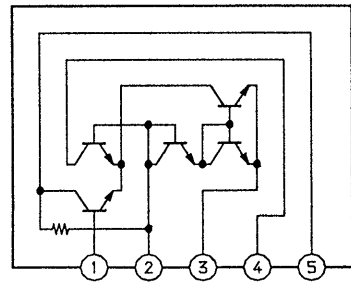
Σ : PB (DECK A)

Σ>>: REC (DECK B)

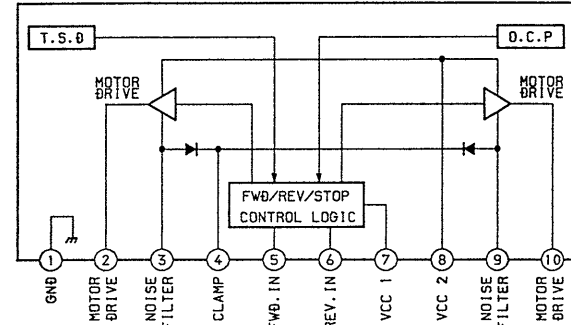
▷ : PB (DECK B)

6-12. IC BLOCK DIAGRAMS – MAIN SECTION –

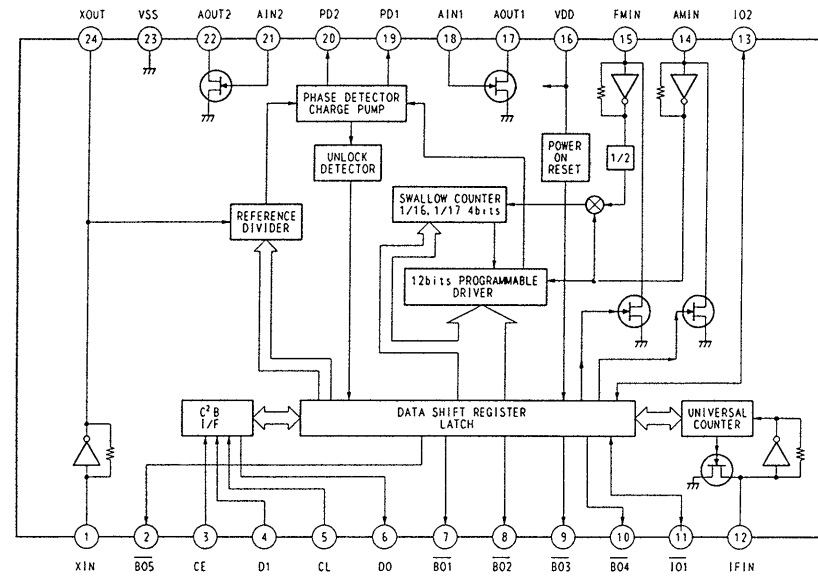
IC1, 2 TA7060AP



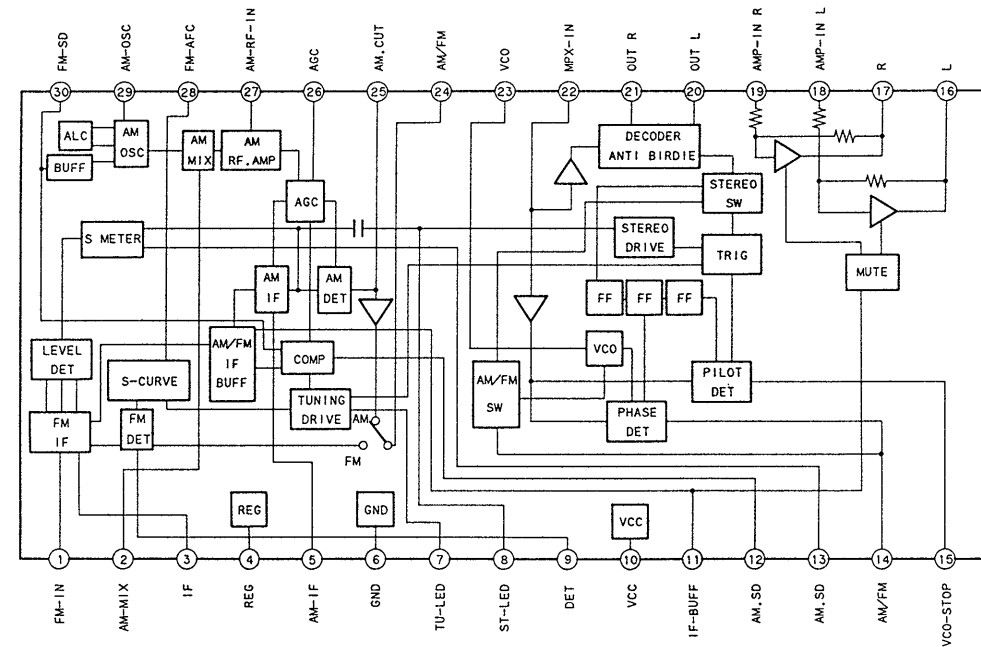
IC105, 402 LB1641



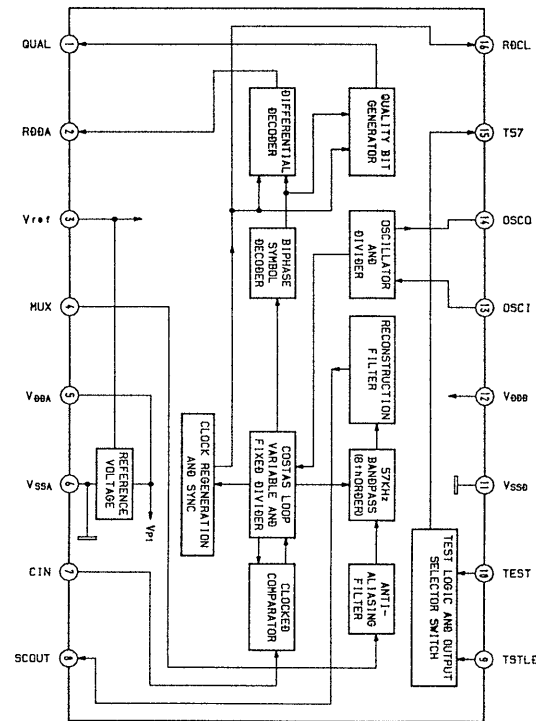
IC21 LC72130



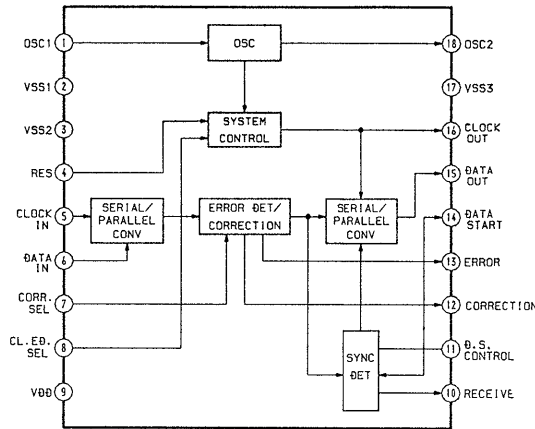
IC41 LA1835



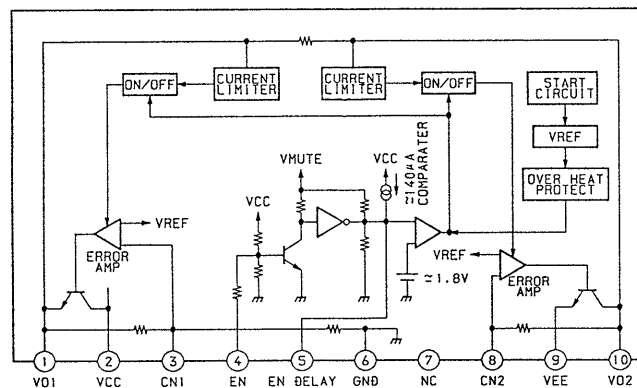
IC82 SAA6579



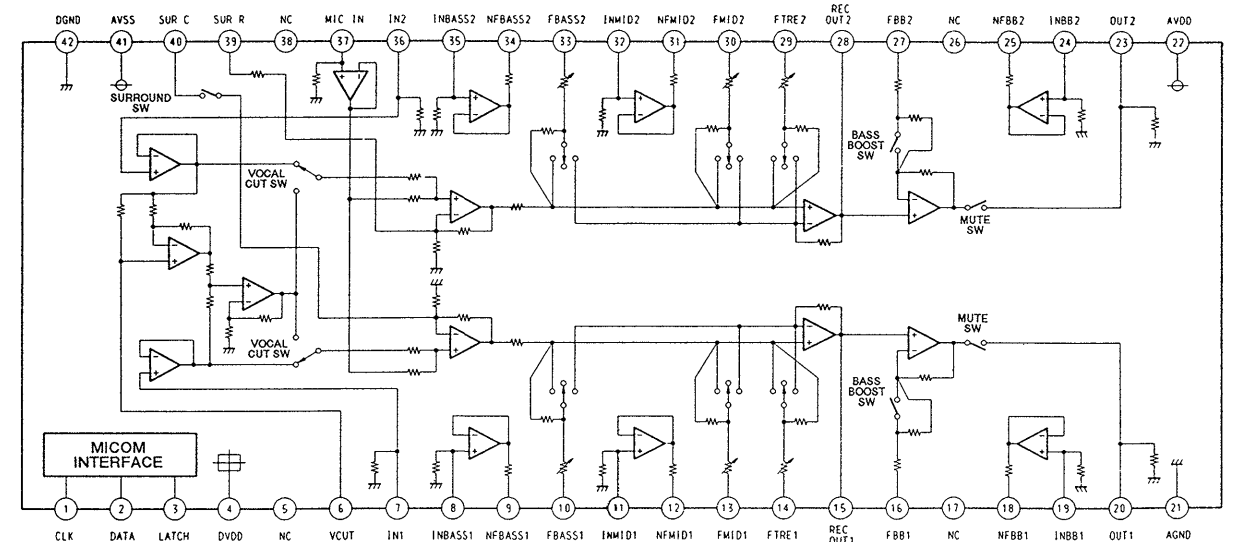
IC83 LC7073M



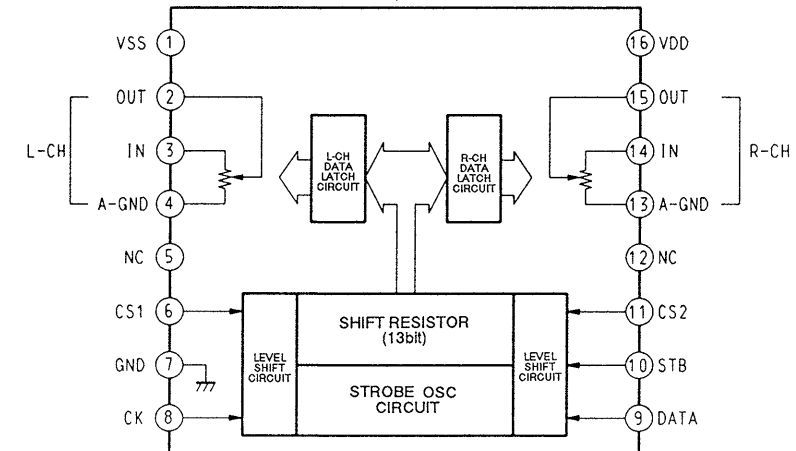
IC804 LA5617



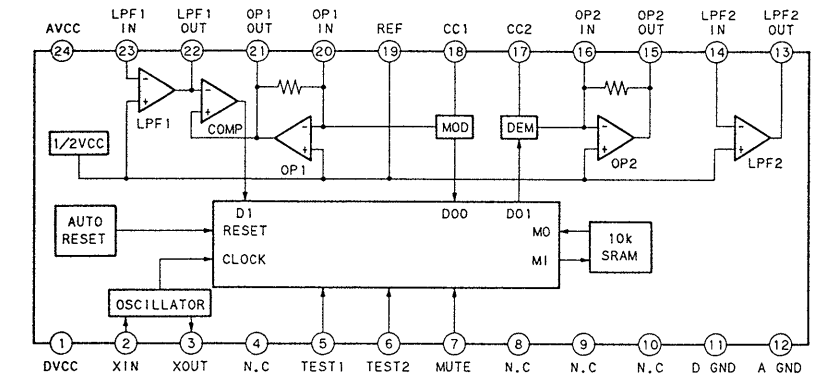
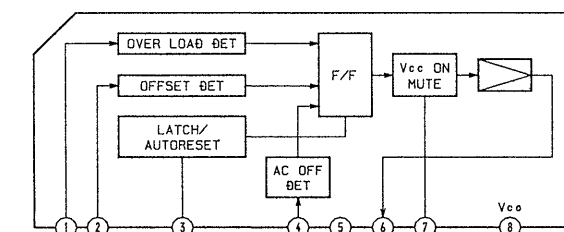
IC108 M62423FP



IC109 TC9210P



IC701 M65843FP

IC801 μ PC1237HA

SECTION 7 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE)....(RED)

↑
Parts color

↑
Cabinet's color

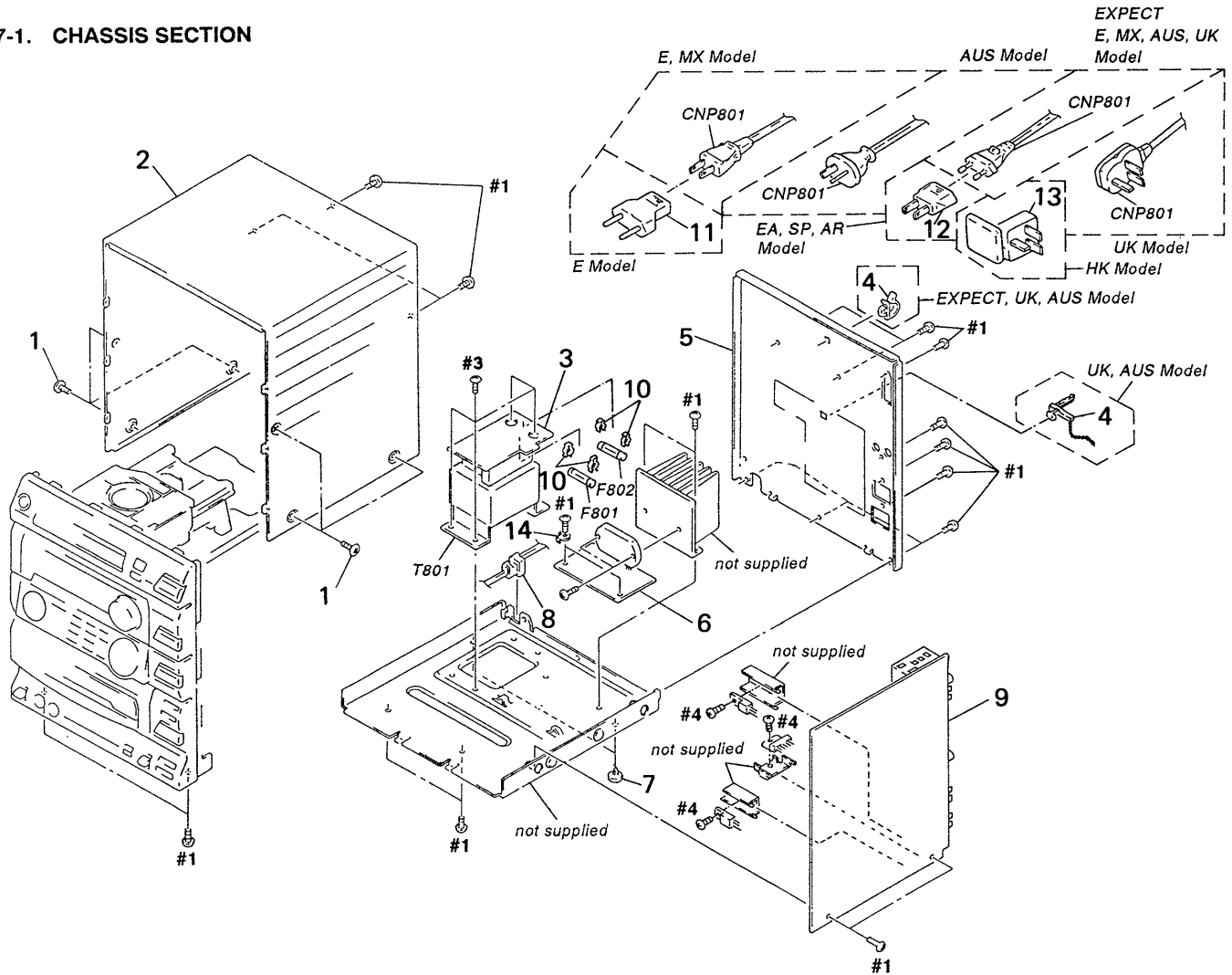
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

● Abbreviations

G : German	MX : Mexican
IT : Italian	MY : Malaysia
EE : East European	SP : Singapore
AUS : Australian	
EA : Saudi Arabia	
AR : Argentine	
HK : Hong Kong	

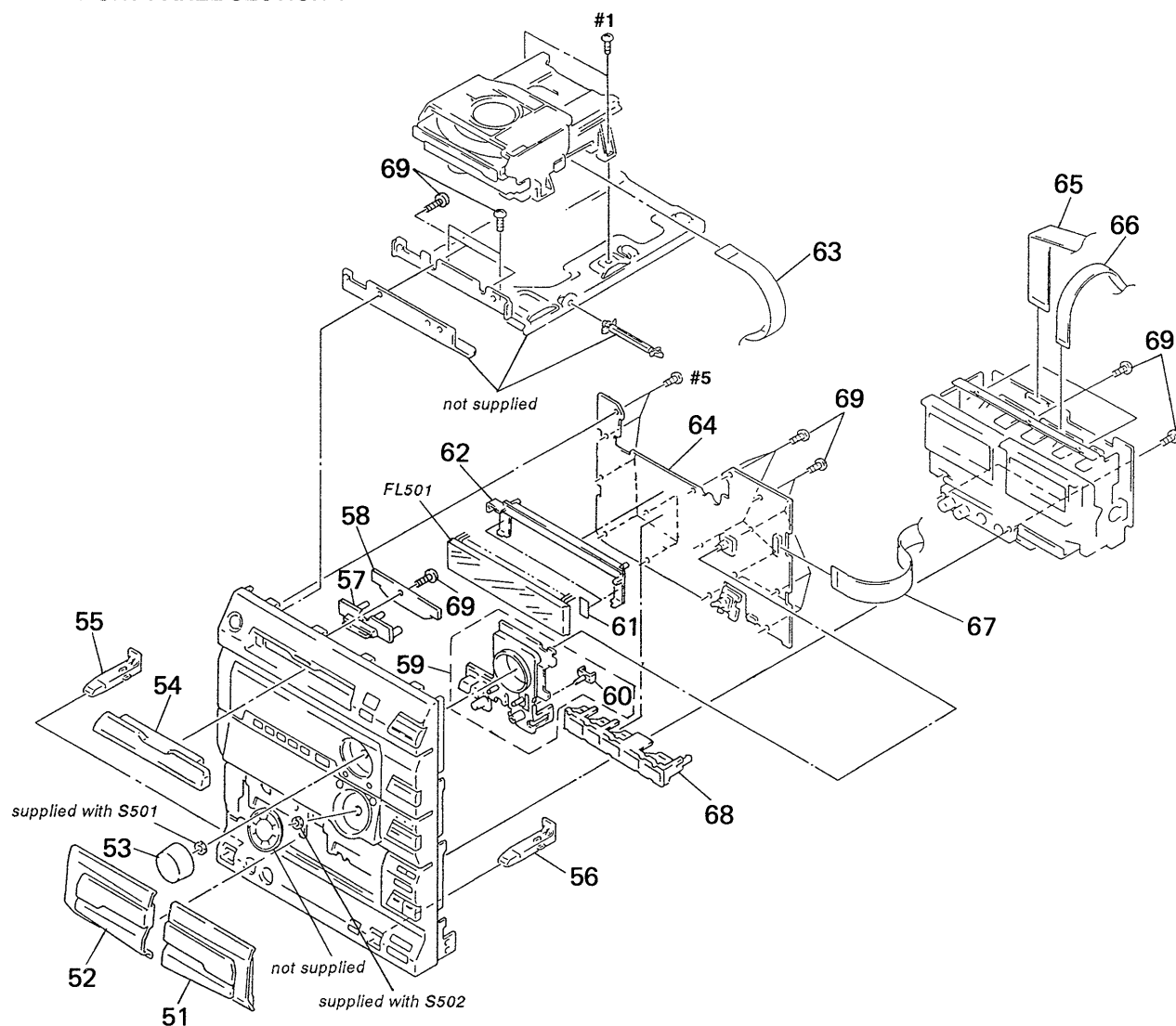
7-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	3-363-099-01	SCREW (CASE 3 TP2)	
2	4-971-899-11	CASE (AEP, UK, G, IT, EE, E, EA, SP, MY, HK, MX, AR, AUS)	
* 3	1-655-373-11	TRANSFORMER BOARD	
* 4	4-949-235-01	HOOK (AEP, G, IT, EE, E, EA, SP, MY, HK, MX, AR)	
4	4-956-370-12	BAND, PLUG FIXED (UK, AUS)	
* 5	4-971-977-01	PANEL, BACK (AE1)	
* 5	4-971-977-11	PANEL, BACK (AE2)	
* 5	4-971-977-21	PANEL, BACK (IT)	
* 5	4-971-977-31	PANEL, BACK (G)	
* 5	4-971-977-41	PANEL, BACK (UK2)	
* 5	4-971-977-51	PANEL, BACK (EE)	
* 5	4-971-977-61	PANEL, BACK (AE1)	
* 5	4-971-977-71	PANEL, BACK (UK1)	
* 5	4-971-978-01	PANEL, BACK (E)	
* 5	4-971-978-11	PANEL, BACK (EA)	
* 5	4-971-978-21	PANEL, BACK (AUS)	
* 5	4-971-978-31	PANEL, BACK (SP)	
* 5	4-971-978-41	PANEL, BACK (MX)	
* 5	4-971-978-51	PANEL, BACK (MY)	
* 5	4-971-978-61	PANEL, BACK (AR)	
* 5	4-971-978-71	PANEL, BACK (HK)	
* 6	A-4377-339-A	POWER AMP BOARD, COMPLETE (AE1, EE)	
* 6	A-4377-351-A	POWER AMP BOARD, COMPLETE (AE2, UK, G, IT)	
* 6	A-4377-354-A	POWER AMP BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	
7	4-965-822-12	FOOT	
* 8	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, IT, EE, EA, SP, MY, HK, AR, AUS)	

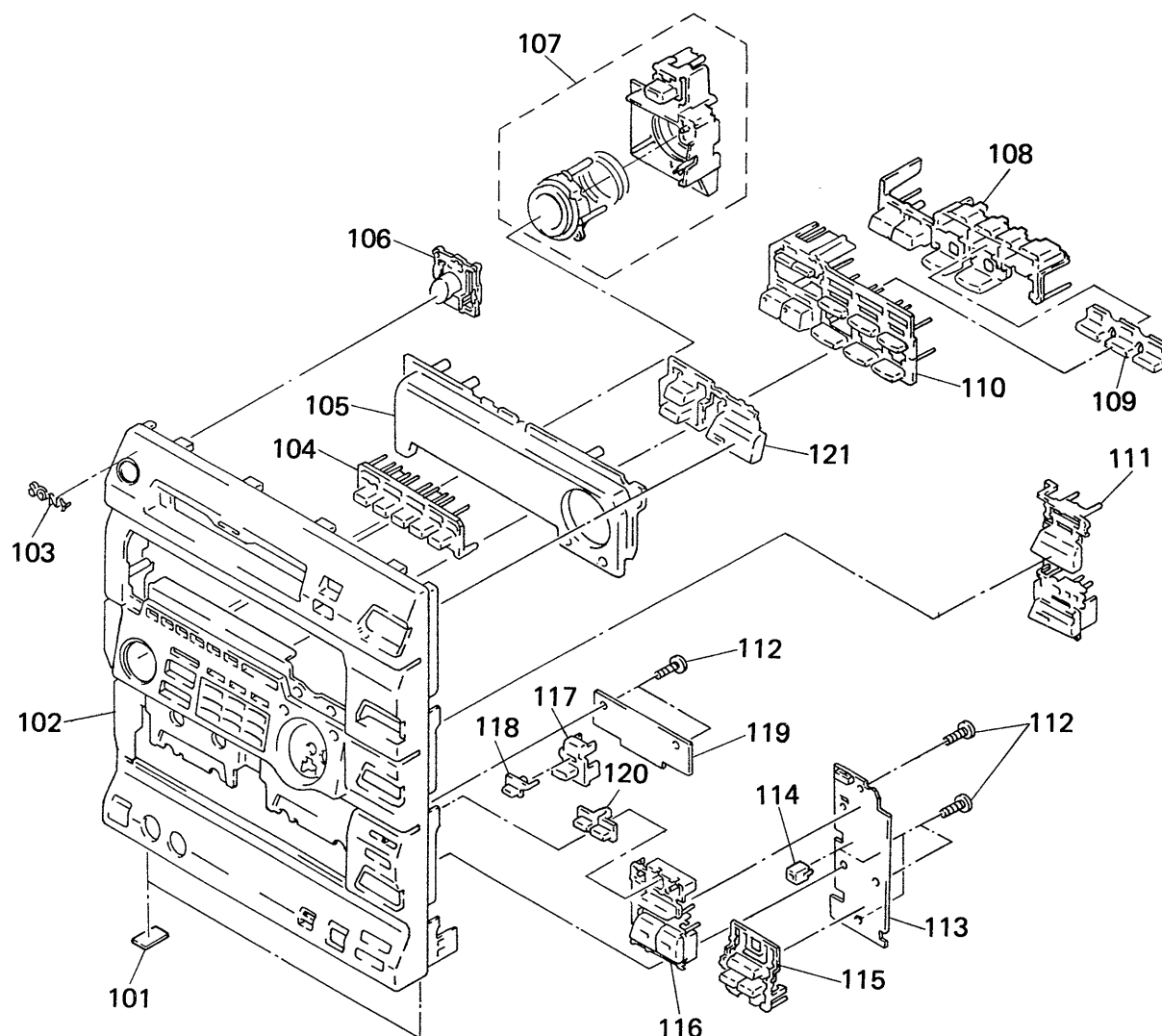
Ref. No.	Part No.	Description	Remark
8	3-703-571-11	BUSHING (S) (4516), CORD (E, MX)	
* 9	A-4377-344-A	MAIN BOARD, COMPLETE (AE1)	
* 9	A-4377-346-A	MAIN BOARD, COMPLETE (EE)	
* 9	A-4377-348-A	MAIN BOARD, COMPLETE (G)	
* 9	A-4377-349-A	MAIN BOARD, COMPLETE (IT)	
* 9	A-4377-353-A	MAIN BOARD, COMPLETE (AE2)	
* 9	A-4377-357-A	MAIN BOARD, COMPLETE (E2, MX, AR)	
* 9	A-4377-358-A	MAIN BOARD, COMPLETE (E3, SP, MY, HK)	
* 9	A-4377-359-A	MAIN BOARD, COMPLETE (EA)	
* 9	A-4377-360-A	MAIN BOARD, COMPLETE (AUS)	
* 9	A-4377-361-A	MAIN BOARD, COMPLETE (UK)	
10	1-533-293-11	FUSE HOLDER	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
12	1-569-008-11	ADAPTER, CONVERSION 2P (EA, SP, AR)	
13	1-770-019-11	ADAPTOR, CONVERSION (HK)	
* 14	4-942-204-01	PLATE, GROUND	
△CNP801	1-575-651-11	CORD, POWER (AEP, G, IT, EE, EA, SP, MY, HK, AR)	
△CNP801	1-575-653-11	CORD, POWER (E, MX)	
△CNP801	1-696-847-11	CORD, POWER (AUS)	
△CNP801	1-751-520-21	CORD, POWER (UK)	
△F801	1-532-237-00	FUSE (3.15A/250V) (E, EA, SP, HK, MX, AR)	
△F802	1-532-078-00	FUSE, TIME-LAG (1A/250V) (AEP, UK, G, IT, EE)	
△F802	1-532-259-00	FUSE (1.6A/250V) (E, EA, SP, MY, HK, AR, AUS)	
△T801	1-427-794-12	TRANSFORMER, POWER (AEP, G, IT, EE, UK)	
△T801	1-427-795-11	TRANSFORMER, POWER (E, EA, AR, HK, MX, MY, SP, AUS)	

7-2. FRONT PANEL SECTION-1



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-4945-667-1	LID (A) ASSY, CASSETTE		* 62	4-971-014-11	HOLDER, FL TUBE	
52	X-4945-668-1	LID (B) ASSY, CASSETTE		63	1-654-751-11	FLEXIBLE BOARD	
53	4-973-774-01	KNOB (VOL)		* 64	A-4377-338-A	PANEL BOARD, COMPLETE	
54	4-971-955-01	PANEL, LOADING				(E, EA, SP, MY, HK, MX, AR, AUS)	
55	4-971-956-01	BUTTON (EJ-A)		* 64	A-4377-350-A	PANEL BOARD, COMPLETE (AEP, UK, G, IT, EE)	
56	4-971-957-01	BUTTON (EJ-B)		65	1-769-689-31	WIRE (FLAT TYPE) (21 CORE)	
57	4-971-908-01	INDICATOR (CD)		66	1-769-688-31	WIRE (FLAT TYPE) (11 CORE)	
* 58	1-655-368-11	CD-LED BOARD		67	1-769-690-31	WIRE (FLAT TYPE) (17 CORE)	
59	X-4945-675-1	BRACKET (VOL) ASSY		68	4-971-914-01	HOLDER, LED	
60	4-970-872-11	INDICATOR (E/N)		69	4-951-620-01	SCREW (2.6×8), +BVTP	
61	4-932-810-21	CUSHION(FL)		FL501	1-517-341-21	INDICATOR TUBE, FLUORESCENT	

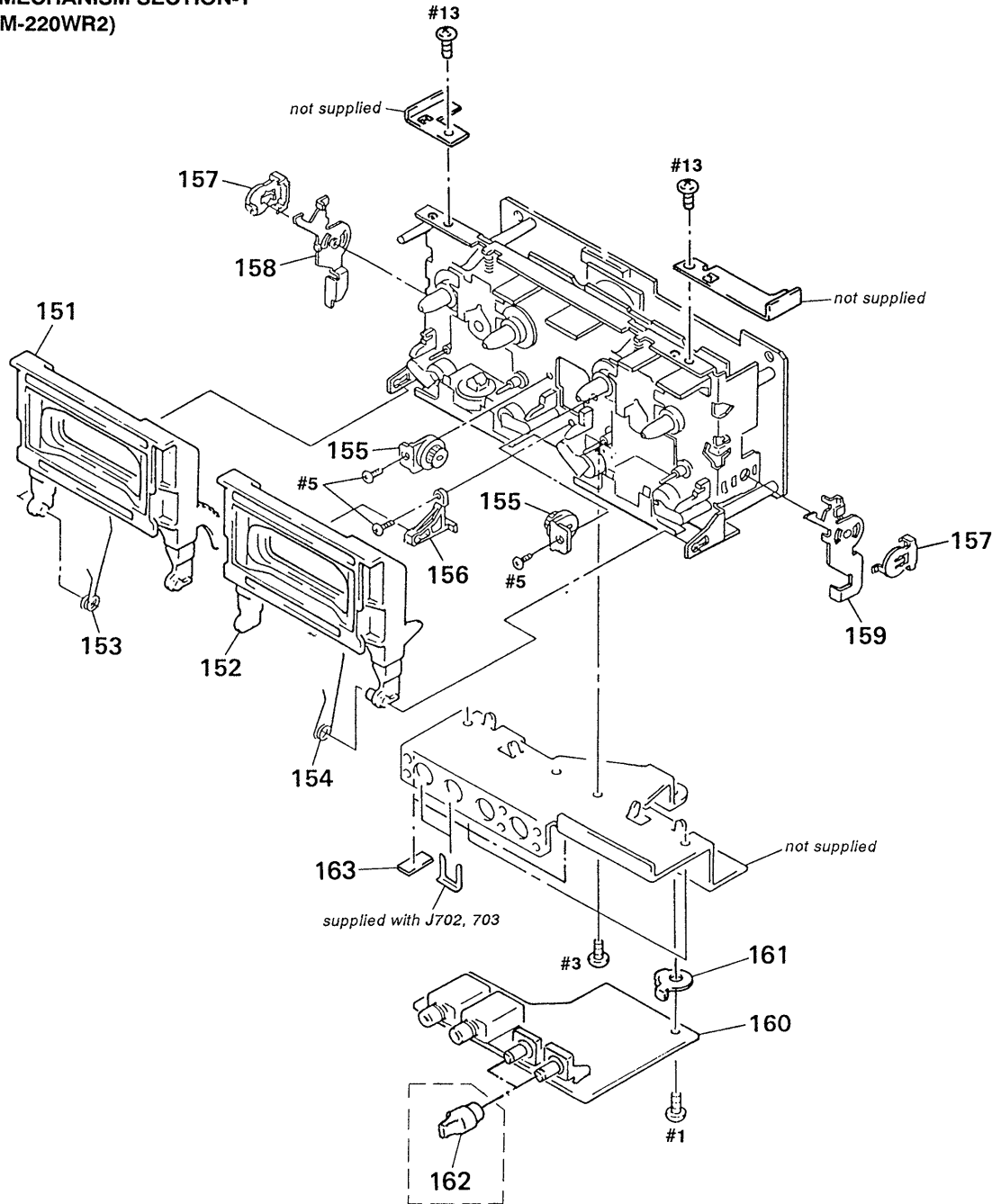
7-3. FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remark
101	4-930-336-81	FOOT (FELT)	
102	4-971-901-01	PANEL, FRONT (AEP, UK, G, IT, EE)	
102	4-971-901-11	PANEL, FRONT (E, EA, SP, MY, HK, MX, AR, AUS)	
103	4-962-708-11	EMBLEM (4-A), SONY	
104	4-971-905-01	BUTTON (EQ)	
		(AEP, UK, G, IT, EE, E3, EA, SP, MY, HK, AUS)	
104	4-971-905-11	BUTTON (EQ) (E2, MX, AR)	
105	4-971-902-01	WINDOW (FLD)	
106	4-971-913-01	BUTTON (POWER)	
107	X-4945-674-1	BUTTON (CURSOR) ASSY (AEP, UK, G, IT, EE)	
107	X-4946-055-1	BUTTON (CURSOR) ASSY	
		(E, EA, SP, MY, HK, MX, AR, AUS)	
108	4-971-907-01	BUTTON (STR-B)	
109	4-972-098-01	INDICATOR (FUNCTION)	
		(AEP, UK, G, IT, EE, E3, EA, SP, MY, HK, AUS)	

Ref. No.	Part No.	Description	Remark
110	X-4945-673-1	BUTTON (STR-A) ASSY	
111	X-4945-672-1	BUTTON (F/T) ASSY	
112	4-951-620-01	SCREW (2.6×8), +BVTP	
* 113	1-655-369-11	TC SWITCH BOARD	
114	3-362-478-01	HOLDER (T), LED	
115	4-972-642-01	BUTTON (TC-STOP)	
116	X-4945-676-1	BUTTON (TC-PLAY) ASSY	
117	4-970-880-11	BUTTON (KARAOKE)	
118	4-970-881-11	INDICATOR (KARAOKE)	
* 119	1-655-370-11	KARAOKE SWITCH BOARD	
120	4-970-882-11	INDICATOR (A/B)	
121	X-4945-671-1	BUTTON (CD) ASSY	

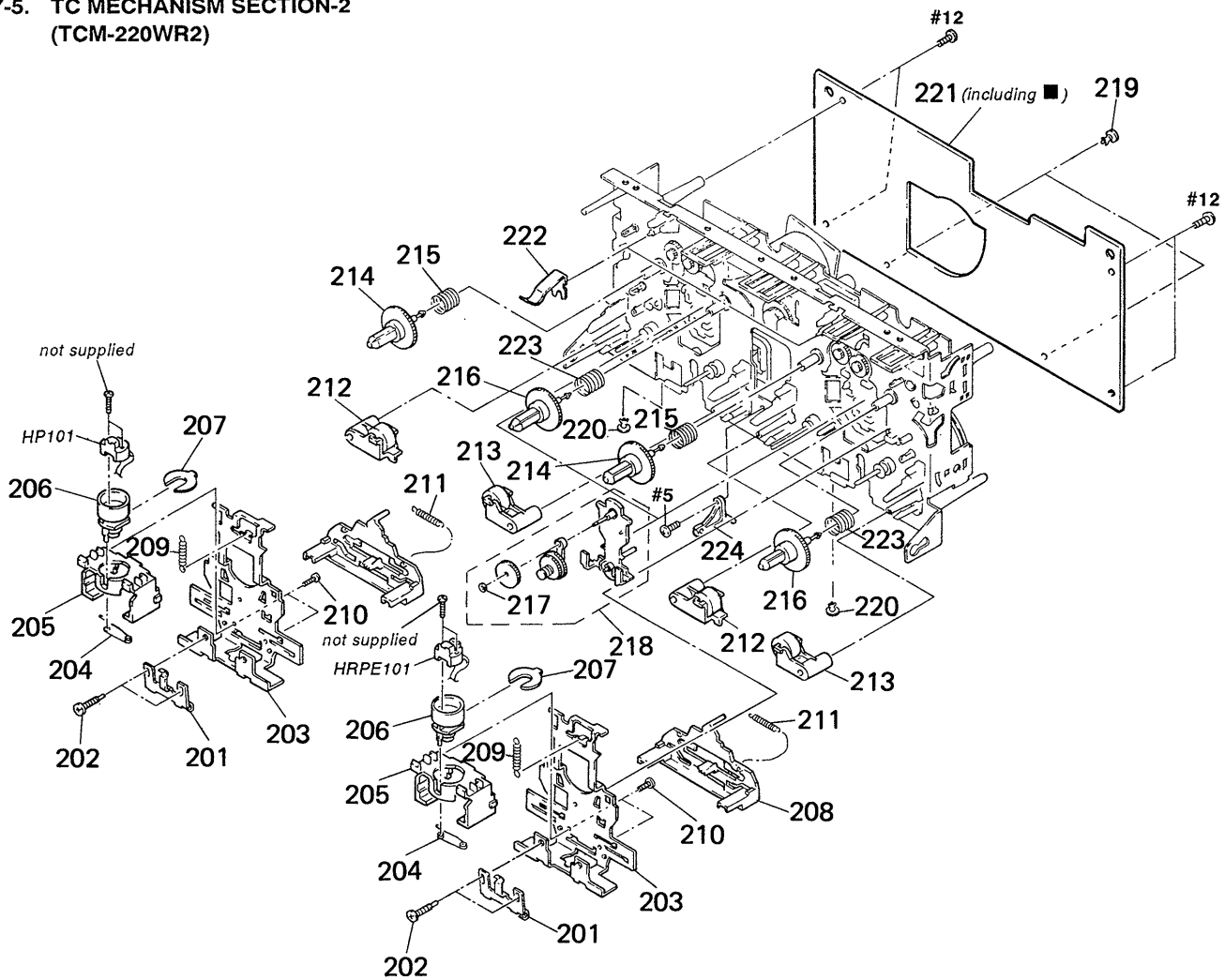
7-4. TC MECHANISM SECTION-1
(TCM-220WR2)



E, EA, SP, MY, HK, MX,
AR, AUS Model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-4945-690-1	HOLDER (L) ASSY, CASSETTE		* 159	4-965-877-11	LEVER (LOCK LEVER R)	
152	X-4945-691-1	HOLDER (R) ASSY, CASSETTE		* 160	A-4377-340-A	HP/MIC BOARD, COMPLETE (AE1, EE)	
153	4-959-231-11	SPRING (L), TORSION		* 160	A-4377-352-A	HP/MIC BOARD, COMPLETE (AE2, G, IT, UK)	
154	4-959-232-11	SPRING (R), TORSION		* 160	A-4377-355-A	HP/MIC BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	
155	3-354-963-01	DAMPER		* 161	4-942-204-01	PLATE, GROUND	
* 156	3-908-611-01	FULCRUM, HOLDER		162	4-973-644-01	KNOB (MIC) (E, EA, SP, MY, HK, MX, AR, AUS)	
157	3-354-957-01	JOINT (LOCK LEVER)		* 163	4-923-383-01	SHEET (B)	
158	3-367-709-21	LEVER (LOCK LEVER L)					

7-5. TC MECHANISM SECTION-2
(TCM-220WR2)

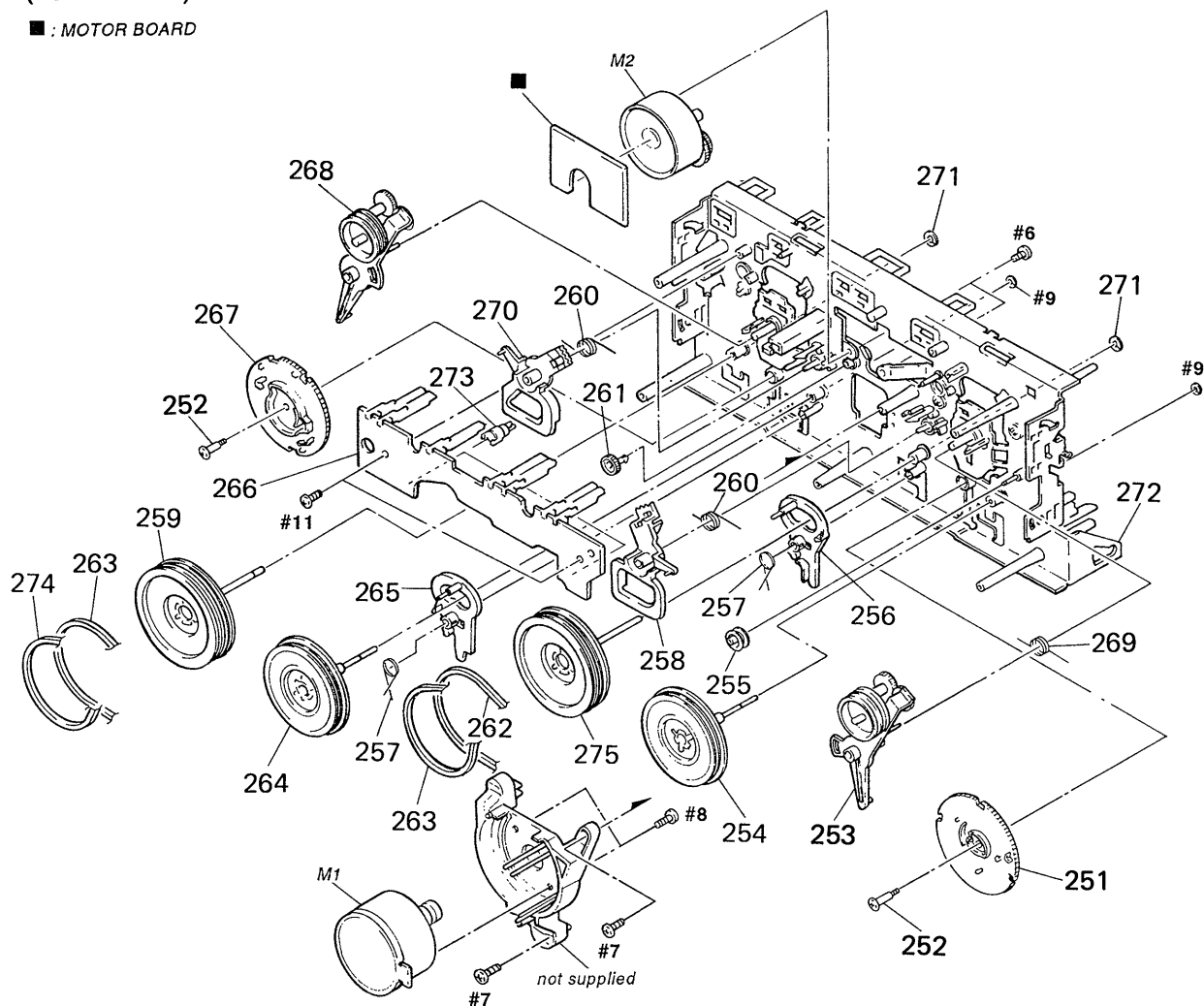


Ref. No.	Part No.	Description	Remark
201	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT	
202	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT	
* 203	X-3367-584-2	SLIDER (HEAD) ASSY	
204	3-908-556-01	SPRING, HEAD TOGGLE	
205	3-908-558-02	FITTING BLOCK, HEAD	
206	3-908-557-02	ROTARY BLOCK, HEAD	
* 207	3-908-559-01	STOPPER, AZIMUTH	
208	3-908-555-01	SLIDER (REV SLIDER)	
209	3-917-143-01	SPRING, TENSION	
210	3-388-848-01	SCREW (P2×6) (B TIGHT)	
211	3-911-113-01	SPRING, TENSION	
212	X-3367-589-1	PINCH LEVER (REV) ASSY	
213	X-3367-588-1	PINCH LEVER (FWD) ASSY	

Ref. No.	Part No.	Description	Remark
214	3-908-613-01	GEAR (S), REEL	
215	3-917-141-01	SPRING, COMPRESSION	
216	X-3367-594-1	REEL (T) ASSY	
217	3-669-465-01	WASHER (1.5), STOPPER	
218	X-3370-173-1	TU ASSY	
219	3-911-116-11	RIVET, PUSH	
220	3-911-116-21	RIVET, PUSH	
* 221	A-2007-253-A	AUDIO BOARD, COMPLETE	
222	3-915-490-01	DETENT, HALF	
223	3-917-142-01	SPRING, COMPRESSION	
* 224	3-908-611-01	FULCRUM, HOLDER	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK-A)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK-B)	

7-6. TC MECHANISM SECTION-3
(TCM-220WR2)

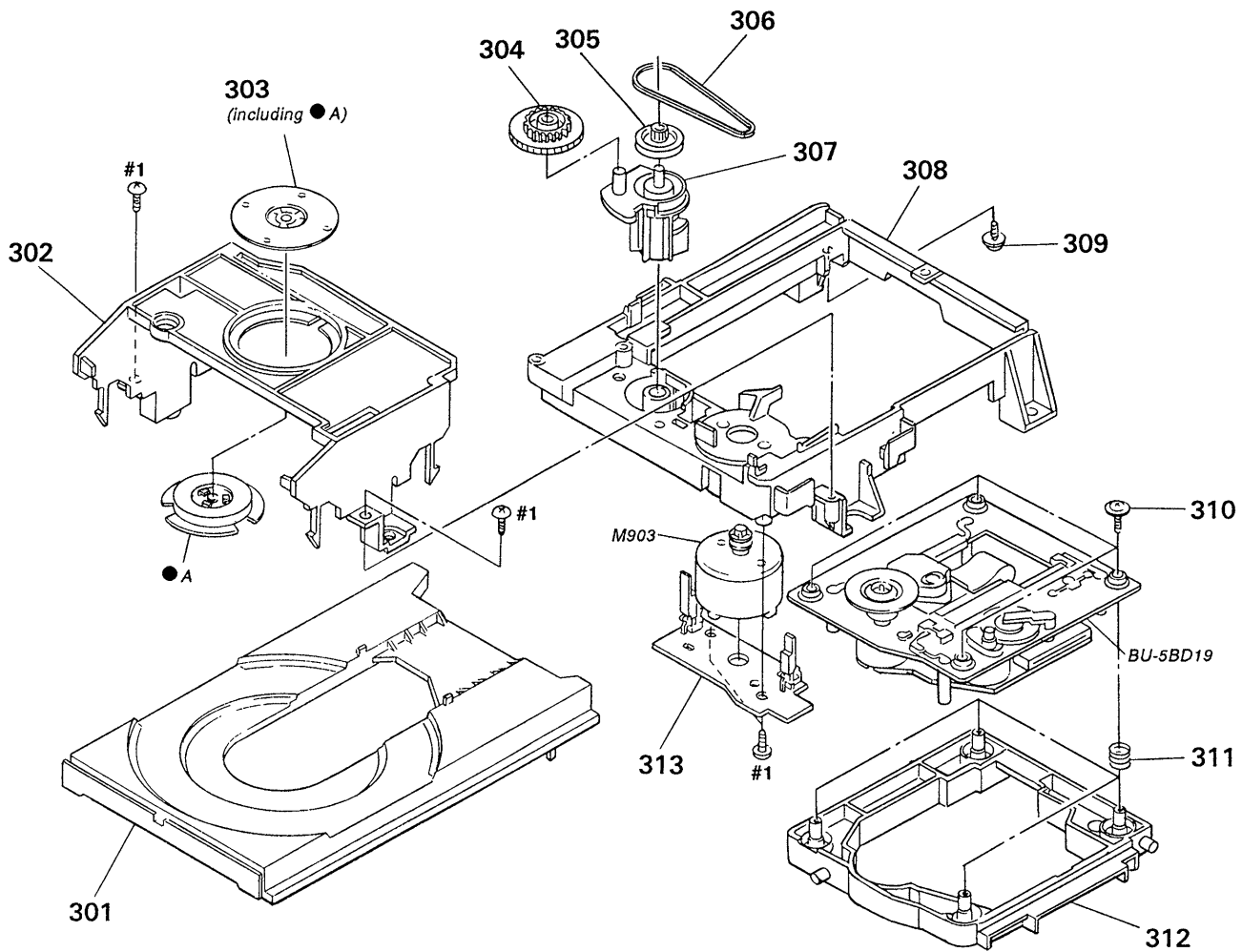
■ : MOTOR BOARD



Ref.No.	Part No.	Description	Remark
251	3-908-597-01	CAM (A)	
252	3-908-608-01	SCREW, STEP	
253	X-3367-590-2	ARM (A) ASSY, FR	
254	X-3370-169-1	FLYWHEEL (AR) ASSY	
255	3-908-610-01	PULLEY, TENSION	
256	3-908-599-01	LEVER (REV-A)	
257	3-908-601-01	SPRING (REV LEVER), TORSION	
258	3-908-603-01	LEVER (TRIGGER A)	
259	X-3370-170-1	FLYWHEEL (BF) ASSY	
260	3-908-605-01	SPRING (TRIGGER), TORSION	
261	3-908-609-01	GEAR, TRIGGER	
262	3-913-845-01	BELT (A)	
263	3-913-846-01	BELT (FR)	
264	X-3370-171-1	FLYWHEEL (BR) ASSY	

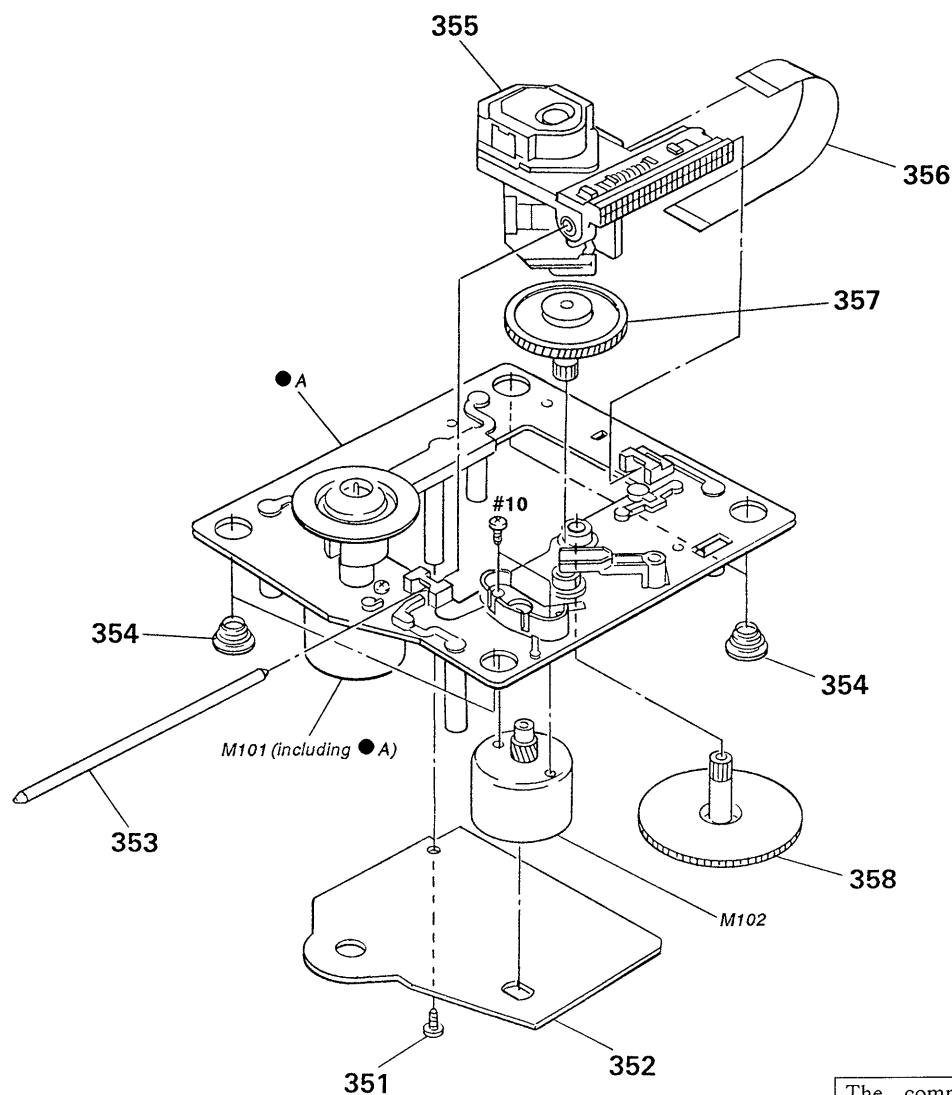
Ref.No.	Part No.	Description	Remark
265	3-908-600-01	LEVER (REV-B)	
* 266	1-650-669-11	LEAF SWITCH BOARD	
267	3-908-598-01	CAM (B)	
268	X-3367-591-2	ARM (B) ASSY, FR	
269	3-911-114-01	SPRING (FR), TORSION	
270	3-908-604-01	LEVER (TRIGGER B)	
271	3-911-115-01	WASHER, STOPPER	
272	X-3367-587-1	CHASSIS ASSY, MECHANICAL	
* 273	3-381-776-01	HOLDER (LED)	
274	3-917-176-01	BELT (B)	
275	X-3370-172-1	FLYWHEEL (AF) ASSY	
M1	X-3369-110-1	MOTOR ASSY (CAPSTAN)	
M2	X-3369-111-1	MOTOR ASSY (TRIGGER)	

7-7. CD MECHANISM SECTION-1
(CDM28-5BD19)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
301	4-960-836-01	TABLE, DISC		308	4-960-838-03	BASE (MD)	
302	4-960-835-01	HOLDER (M)		309	4-917-583-21	BRACKET, YOKE	
303	1-452-719-11	MAGNET ASSY (including ●A)		310	4-933-134-01	SCREW (+PTPWH M2. 6X6)	
304	4-960-842-01	GEAR (P)		311	4-959-996-01	SPRING (932), COMPRESSION	
305	4-960-841-01	PULLEY (S)		312	4-960-834-01	HOLDER (BU)	
306	4-927-649-01	BELT		* 313	1-650-836-11	LOADING BOARD	
* 307	4-960-839-01	CAM		M903	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

7-8. CD MECHANISM SECTION-2
(BU-5BD19)



Ref.No.	Part No.	Description	Remark
351	4-951-620-01	SCREW (2.6×8), +BVTP	
* 352	A-4673-402-A	BD BOARD, COMPLETE	
353	4-917-565-01	SHAFT, SLED	
354	4-951-940-01	INSULATOR (BU)	
⚠355	8-848-387-01	DEVICE, OPTICAL KSS-213BA/S-N	

Ref.No.	Part No.	Description	Remark
356	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
357	4-917-567-21	GEAR (M)	
358	4-917-564-01	GEAR (P), FLATNESS	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE) (including ●A)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

SECTION 8 ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal oxide-film resistor
F : nonflammable

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

● SEMICONDUCTORS

In each case, u : μ , for example :uA.... : μ A...., uPA.... : μ PA....uPB.... : μ PB...., uPC.... : μ PC....uPD.... : μ PD....

● CAPACITORS

uF : μ F

● COILS

uH : μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

● Abbreviations

G : German	AR : Argentine
IT : Italian	HK : Hong Kong
EE : East European	MX : Mexican
AUS : Australian	MY : Malaysia
EA : Saudi Arabia	SP : Singapore

Ref. No.	Part No.	Description	Remark
*	A-2007-253-A	AUDIO BOARD, COMPLETE ***** MOTOR BOARD ***** < CAPACITOR >	
C301	1-162-289-31	CERAMIC 390PF	10% 50V
C302	1-124-443-00	ELECT 100uF	20% 10V
C303	1-162-282-31	CERAMIC 100PF	10% 50V
C304	1-130-483-00	MYLAR 0.01uF	5% 50V
C305	1-124-282-00	ELECT 22uF	20% 16V
C311	1-162-289-31	CERAMIC 390PF	10% 50V
C313	1-162-282-31	CERAMIC 100PF	10% 50V
C314	1-130-487-00	MYLAR 0.022uF	5% 50V
C315	1-124-234-00	ELECT 22uF	20% 16V
C331	1-136-434-11	FILM 120PF	5% 630V
C332	1-162-288-31	CERAMIC 330PF	10% 50V
C333	1-162-209-31	CERAMIC 27PF	5% 50V
C401	1-162-289-31	CERAMIC 390PF	10% 50V
C402	1-124-443-00	ELECT 100uF	20% 10V
C403	1-162-282-31	CERAMIC 100PF	10% 50V
C404	1-130-483-00	MYLAR 0.01uF	5% 50V
C405	1-124-282-00	ELECT 22uF	20% 16V
C411	1-162-289-31	CERAMIC 390PF	10% 50V
C413	1-162-282-31	CERAMIC 100PF	10% 50V
C414	1-130-487-00	MYLAR 0.022uF	5% 50V
C415	1-124-234-00	ELECT 22uF	20% 16V
C431	1-136-434-11	FILM 120PF	5% 630V
C432	1-162-288-31	CERAMIC 330PF	10% 50V
C433	1-162-209-31	CERAMIC 27PF	5% 50V
C601	1-126-157-11	ELECT 10uF	20% 16V
C602	1-126-157-11	ELECT 10uF	20% 16V
C611	1-126-157-11	ELECT 10uF	20% 16V
C612	1-126-157-11	ELECT 10uF	20% 16V
C621	1-136-601-11	FILM 0.01uF	5% 630V
C622	1-124-925-11	ELECT 2.2uF	20% 100V

Ref. No.	Part No.	Description	Remark
C623	1-136-155-00	FILM 0.015uF	5% 50V
C624	1-130-481-00	MYLAR 0.0068uF	5% 50V
C625	1-130-481-00	MYLAR 0.0068uF	5% 50V
C627	1-124-903-11	ELECT 1uF	20% 50V
C628	1-136-153-00	FILM 0.01uF	5% 50V
C642	1-124-477-11	ELECT 47uF	20% 25V
C651	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
* CN601	1-568-864-11	SOCKET, CONNECTOR 21P	
* CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN651	1-564-521-11	PLUG, CONNECTOR 6P	
< IC >			
IC601	8-759-111-44	IC uPC4570C-1	
IC602	8-759-143-54	IC uPC1330HA	
IC611	8-759-111-44	IC uPC4570C-1	
< COIL >			
L331	1-410-780-11	INDUCTOR 27mH	
L431	1-410-780-11	INDUCTOR 27mH	
< TRANSISTOR >			
Q621	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q622	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q623	8-729-801-93	TRANSISTOR 2SD1387	
Q651	8-729-900-65	TRANSISTOR DTA144ES	
< RESISTOR >			
R301	1-247-881-00	CARBON 120K 5%	1/4W
R302	1-249-409-11	CARBON 220 5%	1/4W
R303	1-249-433-11	CARBON 22K 5%	1/4W
R304	1-247-889-00	CARBON 270K 5%	1/4W
R305	1-247-858-11	CARBON 13K 5%	1/4W

AUDIO

MOTOR

BD

Ref. No.	Part No.	Description	Remark		
R311	1-247-881-00	CARBON	120K	5%	1/4W
R312	1-247-807-31	CARBON	100	5%	1/4W
R314	1-247-882-11	CARBON	130K	5%	1/4W
R315	1-247-850-11	CARBON	6. 2K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-889-00	CARBON	270K	5%	1/4W
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6. 2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W
R602	1-249-409-11	CARBON	220	5%	1/4W
R608	1-249-409-11	CARBON	220	5%	1/4W
R609	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W
R612	1-249-409-11	CARBON	220	5%	1/4W
△R621	1-212-851-00	FUSIBLE	5. 6	5%	1/4W F
△R622	1-212-851-00	FUSIBLE	5. 6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
R651	1-247-856-00	CARBON	11K	5%	1/4W
R652	1-247-856-00	CARBON	11K	5%	1/4W
R653	1-249-441-11	CARBON	100K	5%	1/4W
< VARIABLE RESISTOR >					
RV301	1-238-598-11	RES, ADJ, CARBON 2. 2K (PB LEVEL L)			
RV311	1-238-598-11	RES, ADJ, CARBON 2. 2K (PB LEVEL L)			
RV341	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS L)			
RV401	1-238-598-11	RES, ADJ, CARBON 2. 2K (PB LEVEL R)			
RV411	1-238-598-11	RES, ADJ, CARBON 2. 2K (PB LEVEL R))			
RV441	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS R)			
RV651	1-238-599-11	RES, ADJ, CARBON 4. 7K			
		(TAPE SPEED NORMAL)			
RV652	1-238-599-11	RES, ADJ, CARBON 4. 7K (TAPE SPEED HIGH)			
< TRANSFORMER >					
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

Ref. No.	Part No.	Description	Remark		
*	A-4673-402-A	BD BOARD, COMPLETE`			

		< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-275-11	CERAMIC CHIP	0. 001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C106	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C107	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C108	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V
C111	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C112	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C113	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C114	1-164-005-11	CERAMIC CHIP	0. 47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-143-00	CERAMIC CHIP	0. 0012uF	5%	50V
C117	1-164-005-11	CERAMIC CHIP	0. 47uF		25V
C118	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C119	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C120	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C121	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C123	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C127	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0. 33uF		25V
C131	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C132	1-163-037-11	CERAMIC CHIP	0. 022uF	10%	25V
C133	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C134	1-164-346-11	CERAMIC CHIP	1uF		16V
C135	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C136	1-164-005-11	CERAMIC CHIP	0. 47uF		25V
C137	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C139	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C140	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C141	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C142	1-163-038-91	CERAMIC CHIP	0. 1uF		25V
C145	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C146	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C147	1-163-275-11	CERAMIC CHIP	0. 001uF	5%	50V
C148	1-163-275-11	CERAMIC CHIP	0. 001uF	5%	50V
C149	1-164-346-11	CERAMIC CHIP	1uF		16V

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

BD

CD-LED

Ref. No.	Part No.	Description	Remark			
C153	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
< CONNECTOR >						
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P				
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P				
< IC >						
IC101	8-752-069-56	IC CXA1782BQ				
IC102	8-759-291-06	IC BA6397FP-T1				
IC103	8-752-372-94	IC CXD2507AQ				
IC104	8-759-185-29	IC PCM1710U-BT1				
< TRANSISTOR >						
Q101	8-729-010-08	TRANSISTOR	MSB710-R			
Q102	8-729-424-08	TRANSISTOR	UN2111			
Q103	8-729-421-22	TRANSISTOR	UN2211			
< RESISTOR >						
R102	1-216-001-00	METAL CHIP	10	5%	1/10W	
R103	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R104	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R105-108	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R109	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R112	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R117	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R118	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R119	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R120	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R121	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R122	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R126	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R127	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R128	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R129	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	

Ref. No.	Part No.	Description	Remark		
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-049-00	METAL CHIP	1K	5%	1/10W
R139	1-216-033-00	METAL CHIP	220	5%	1/10W
R140	1-216-081-00	METAL CHIP	22K	5%	1/10W
R141	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R142	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R143	1-216-121-00	METAL CHIP	1M	5%	1/10W
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W
R145	1-216-097-00	METAL CHIP	100K	5%	1/10W
R146	1-216-097-00	METAL CHIP	100K	5%	1/10W
R147-149	1-216-049-00	METAL CHIP	1K	5%	1/10W
R150-152	1-216-037-00	METAL CHIP	330	5%	1/10W
R153	1-216-089-00	METAL CHIP	47K	5%	1/10W
R154	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R158	1-216-001-00	METAL CHIP	10	5%	1/10W
< VARIABLE RESISTOR >					
RV101	1-241-396-11	RES, ADJ, METAL GLAZE	22K	(FOCUS BIAS)	
RV102	1-241-396-11	RES, ADJ, METAL GLAZE	22K	(FOCUS GAIN)	
RV103	1-241-396-11	RES, ADJ, METAL GLAZE	22K	(TRACKING GAIN)	
< SWITCH >					
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)			
< VIBRATOR >					
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)			

*	1-655-368-11	CD-LED BOARD	*****		
< CONNECTOR >					
* CN508	1-564-518-11	PLUG, CONNECTOR 3P			
< DIODE >					
D535	8-719-032-87	LED SEL5420E-TP			
D536	8-719-032-87	LED SEL5420E-TP			
D537	8-719-033-06	LED SEL5920A			

Ref. No.	Part No.	Description	Remark
*	A-4377-340-A	HP/MIC BOARD, COMPLETE (AE1, EE)	
*	A-4377-352-A	HP/MIC BOARD, COMPLETE (AE2, G, IT, UK)	
*	A-4377-355-A	HP/MIC BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	

*	4-942-204-01	PLATE, GROUND	
< CAPACITOR >			
C701	1-124-925-11	ELECT 2. 2uF 20% 100V (E, EA, SP, MY, HK, MX, AR, AUS)	
C702	1-126-933-11	ELECT 100uF 20% 10V (E, EA, SP, MY, HK, MX, AR, AUS)	
C703	1-162-306-11	CERAMIC 0. 01uF 30% 16V (E, EA, SP, MY, HK, MX, AR, AUS)	
C704	1-161-494-00	CERAMIC 0. 022uF 25V (E, EA, SP, MY, HK, MX, AR, AUS)	
C705	1-124-903-11	ELECT 1uF 20% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C706	1-130-479-00	MYLAR 0. 0047uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C707	1-130-473-00	MYLAR 0. 0015uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C708	1-136-495-11	FILM 0. 068uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C709	1-136-165-00	FILM 0. 1uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C710	1-136-165-00	FILM 0. 1uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C711	1-124-126-00	ELECT 47uF 20% 16V (E, EA, SP, MY, HK, MX, AR, AUS)	
C712	1-136-495-11	FILM 0. 068uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C713	1-162-305-11	CERAMIC 0. 0068uF 30% 16V (E, EA, SP, MY, HK, MX, AR, AUS)	
C714	1-130-479-00	MYLAR 0. 0047uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C715	1-124-903-11	ELECT 1uF 20% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C716	1-130-473-00	MYLAR 0. 0015uF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C717	1-124-903-11	ELECT 1uF 20% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C718	1-164-159-11	CERAMIC 0. 1uF 50V	
C737	1-124-925-11	ELECT 2. 2uF 20% 100V	
C738	1-162-294-31	CERAMIC 0. 001uF 10% 50V	
C739	1-162-215-31	CERAMIC 47PF 5% 50V	
C740	1-162-290-31	CERAMIC 470PF 10% 50V	
C741	1-124-902-00	ELECT 0. 47uF 20% 50V	
C742	1-162-306-11	CERAMIC 0. 01uF 30% 16V (E, EA, SP, MY, HK, MX, AR, AUS)	
C743	1-162-282-31	CERAMIC 100PF 10% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	

Ref. No.	Part No.	Description	Remark
C745	1-124-925-11	ELECT 2. 2uF 20% 100V	
C746	1-124-126-00	ELECT 47uF 20% 16V	
C747	1-124-126-00	ELECT 47uF 20% 16V	
C748	1-162-215-31	CERAMIC 47PF 5% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C755	1-162-282-31	CERAMIC 100PF 10% 50V (AEP, UK, G, IT, EE)	
C755	1-162-290-31	CERAMIC 470PF 10% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C758	1-124-902-00	ELECT 0. 47uF 20% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C759	1-162-215-31	CERAMIC 47PF 5% 50V	
C781	1-162-290-31	CERAMIC 470PF 10% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C782	1-162-290-31	CERAMIC 470PF 10% 50V (E, EA, SP, MY, HK, MX, AR, AUS)	
C790	1-164-159-11	CERAMIC 0. 1uF 50V	
C792	1-162-306-11	CERAMIC 0. 01uF 30% 16V (AEP, UK, G, IT, EE)	
< IC >			
IC701	8-759-265-83	IC M65843FP (E, EA, SP, MY, HK, MX, AR, AUS)	
IC705	8-759-634-51	IC M5218AP (E, EA, SP, MY, HK, MX, AR, AUS)	
IC706	8-759-634-51	IC M5218AP	
< JACK >			
J701	1-507-854-00	JACK, PHONE (MIX MIC) (E, EA, SP, MY, HK, MX, AR, AUS)	
J702	1-507-854-00	JACK, PHONE (MIX MIC) (AEP, UK, G, IT, EE)	
J703	1-507-854-00	JACK, PHONE (PHONES)	
< COIL >			
L701	1-410-521-11	INDUCTOR 100uH (E, EA, SP, MY, HK, MX, AR, AUS)	
< RESISTOR >			
R701	1-247-903-00	CARBON 1M 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R702	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R703	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R704	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R705	1-249-429-11	CARBON 10K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R706	1-249-433-11	CARBON 22K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R707	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	

HP/MIC

KARAOKE SW

LEAF SW

LOADING

Ref.No.	Part No.	Description	Remark
R708	1-249-429-11	CARBON 10K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R709	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R710	1-249-423-11	CARBON 3.3K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R711	1-249-399-11	CARBON 33 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R738	1-249-429-11	CARBON 10K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R739	1-249-417-11	CARBON 1K 5% 1/4W	
R740	1-249-441-11	CARBON 100K 5% 1/4W	
R741	1-249-417-11	CARBON 1K 5% 1/4W	
R742	1-249-433-11	CARBON 22K 5% 1/4W	
R743	1-249-429-11	CARBON 10K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R744	1-249-431-11	CARBON 15K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R745	1-249-437-11	CARBON 47K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R746	1-247-807-31	CARBON 100 5% 1/4W (AEP, UK, G, IT, EE)	
R746	1-249-417-11	CARBON 1K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R750	1-249-429-11	CARBON 10K 5% 1/4W (AEP, UK, G, IT, EE)	
R756	1-247-883-00	CARBON 150K 5% 1/4W (AEP, UK, G, IT, EE)	
R756	1-249-435-11	CARBON 33K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
R757	1-249-429-11	CARBON 10K 5% 1/4W	
R781	1-249-423-11	CARBON 3.3K 5% 1/4W (E, EA, SP, MY, HK, MX, AR, AUS)	
< VARIABLE RESISTOR >			
RV701	1-223-815-11	RES, VAR, CARBON 50K (MIC LEVEL) (E, EA, SP, MY, HK, MX, AR, AUS)	
RV702	1-223-815-11	RES, VAR, CARBON 50K (ECHO LEVEL) (E, EA, SP, MY, HK, MX, AR, AUS)	
< VIBRATOR >			
X701	1-527-978-00	OSCILLATOR, CERAMIC (320kHz) (E, EA, SP, MY, HK, MX, AR, AUS)	

*	1-655-370-11	KARAOKE SWITCH BOARD *****	
< DIODE >			
D514	8-719-046-44	LED SEL5221S-TP15 (KARAOKE PON)	

Ref.No.	Part No.	Description	Remark
< RESISTOR >			
R535	1-249-423-11	CARBON 3.3K 5% 1/4W	
R536	1-249-427-11	CARBON 6.8K 5% 1/4W	
< SWITCH >			
S528	1-554-303-21	SWITCH, TACTILE (KARAOKE PON)	

*	1-650-669-11	LEAF SWITCH BOARD *****	
*	3-381-776-01	HOLDER (LED)	
< CONNECTOR >			
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P	
< TRANSISTOR >			
Q1001	8-719-710-02	TRANSISTOR PHOTO REFLECTOR NJL5165K-A	
Q1002	8-719-710-02	TRANSISTOR PHOTO REFLECTOR NJL5165K-A	
< RESISTOR >			
R1001	1-249-412-11	CARBON 390 5% 1/4W	
R1002	1-249-412-11	CARBON 390 5% 1/4W	
R1003	1-249-414-11	CARBON 560 5% 1/4W	
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W	
R1005	1-247-818-11	CARBON 300 5% 1/4W	
< SWITCH >			
S1001	1-692-832-11	SWITCH, PUSH (1 KEY) (A PLAY)	
S1002	1-692-832-11	SWITCH, PUSH (1 KEY) (B PLAY)	
S1003	1-571-281-21	SWITCH, LEAF (A HALF)	
S1004	1-571-281-21	SWITCH, LEAF (A CrO2)	
S1005	1-572-248-11	SWITCH, LEAF (REC A)	
S1006	1-572-248-11	SWITCH, LEAF(B HALF)	
S1008	1-571-281-21	SWITCH, LEAF(B CrO2)	
S1009	1-571-281-21	SWITCH, LEAF(REC B)	

*	1-650-836-11	LOADING BOARD *****	
< CONNECTOR >			
* CN291	1-568-943-11	PIN, CONNECTOR 5P	
< SWITCH >			
S291	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S292	1-572-086-11	SWITCH, LEAF (LOAD IN)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4377-344-A	MAIN BOARD, COMPLETE (AE1)		C31	1-136-153-00	FILM 0.01uF	5% 50V
*	A-4377-346-A	MAIN BOARD, COMPLETE (EE)		C32	1-124-463-00	ELECT 0.1uF	20% 50V
*	A-4377-348-A	MAIN BOARD, COMPLETE (G)		C33	1-164-159-11	CERAMIC 0.1uF	50V
*	A-4377-349-A	MAIN BOARD, COMPLETE (IT)		C34	1-162-198-31	CERAMIC 8.2PF	10% 50V
*	A-4377-353-A	MAIN BOARD, COMPLETE (AE2)					(AEP, UK, EE)
*	A-4377-357-A	MAIN BOARD, COMPLETE (E2, MX, AR)		C34	1-162-196-31	CERAMIC 5.6PF	10% 50V
*	A-4377-358-A	MAIN BOARD, COMPLETE (E3, SP, MY, HK)					(G, IT, E, EA, SP, MY, HK, MX, AR, AUS)
*	A-4377-359-A	MAIN BOARD, COMPLETE (EA)		C39	1-162-306-11	CERAMIC 0.01uF	20% 16V
*	A-4377-360-A	MAIN BOARD, COMPLETE (AUS)		C40	1-162-306-11	CERAMIC 0.01uF	20% 16V
*	A-4377-361-A	MAIN BOARD, COMPLETE (UK2)		C41-46	1-162-306-11	CERAMIC 0.01uF	30% 16V
*	A-4377-952-A	MAIN BOARD, COMPLETE (UK1)		C47	1-124-126-00	ELECT 47uF	20% 16V
		*****		C48	1-162-306-11	CERAMIC 0.01uF	30% 16V
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S		C49	1-124-902-00	ELECT 0.47uF	20% 50V
		< CAPACITOR >		C50	1-124-903-11	ELECT 1uF	20% 50V
C1	1-162-306-11	CERAMIC 0.01uF	30% 16V	C51	1-124-903-11	ELECT 1uF	20% 50V
C2	1-162-205-31	CERAMIC 18PF	5% 50V	C52-56	1-126-964-11	ELECT 10uF	20% 50V
C3	1-162-306-11	CERAMIC 0.01uF	30% 16V	C57	1-162-600-11	CERAMIC 0.0047uF	30% 16V
C4	1-162-306-11	CERAMIC 0.01uF	30% 16V	C58	1-162-600-11	CERAMIC 0.0047uF	30% 16V
C5	1-124-126-00	ELECT 47uF	20% 16V	C59	1-136-159-00	FILM 0.033uF	5% 50V
C6	1-162-306-11	CERAMIC 0.01uF	30% 16V	C60	1-136-159-00	FILM 0.033uF	5% 50V
			(AE2, UK, G, IT)	C61	1-124-903-11	ELECT 1uF	20% 50V
C10	1-162-306-11	CERAMIC 0.01uF	30% 16V	C62	1-162-294-31	CERAMIC 0.001uF	10% 50V
C11	1-164-159-11	CERAMIC 0.1uF	50V	C63	1-162-303-11	CERAMIC 0.0033uF	30% 16V
			(E3, EA, SP, MY, HK)	C64	1-124-126-00	ELECT 47uF	20% 16V
C13	1-164-159-11	CERAMIC 0.1uF	50V	C65	1-162-306-11	CERAMIC 0.01uF	30% 16V
			(AEP)	C66	1-126-111-11	ELECT 3.3uF	20% 50V
C14	1-164-159-11	CERAMIC 0.1uF	50V	C67	1-126-933-11	ELECT 100uF	20% 16V
			(E3, EA, SP, MY, HK)	C68	1-162-306-11	CERAMIC 0.01uF	30% 16V
C15	1-136-162-00	FILM 0.056uF	5% 50V	C81	1-164-159-11	CERAMIC 0.1uF	50V
			(E3, EA, SP, MY, HK)				(AEP, UK, G, IT)
C16	1-126-933-11	ELECT 100uF	20% 16V	C82	1-126-964-11	ELECT 10uF	20% 50V
			(E3, EA, SP, MY, HK)				(AEP, UK, G, IT)
C17	1-162-306-11	CERAMIC 0.01uF	30% 16V	C83	1-162-291-31	CERAMIC 560PF	10% 50V
			(E3, EA, SP, MY, HK)				(AEP, UK, G, IT)
C18	1-162-195-31	CERAMIC 4.7PF	10% 50V	C84	1-102-527-11	CERAMIC 82PF	5% 50V
			(E3, EA, SP, MY, HK)				(AEP, UK, G, IT)
C19	1-102-527-11	CERAMIC 82PF	5% 50V	C85	1-164-035-11	CERAMIC 47PF	5% 50V
			(AEP, UK, EE)				(AEP, UK, G, IT)
C20	1-162-211-31	CERAMIC 33PF	5% 50V	C86	1-162-306-11	CERAMIC 0.01uF	30% 16V
			(AEP, G, IT, UK)				(AEP, UK, G, IT)
C21	1-162-306-11	CERAMIC 0.01uF	30% 16V	C87	1-126-933-11	ELECT 100uF	20% 16V
C22	1-162-306-11	CERAMIC 0.01uF	30% 16V				(AEP, UK, G, IT)
C23	1-162-199-31	CERAMIC 10PF	5% 50V	C88	1-124-257-00	ELECT 2.2uF	20% 50V
							(AEP, UK, G, IT)
C24	1-162-199-31	CERAMIC 10PF	5% 50V	C89	1-162-288-31	CERAMIC 330PF	10% 50V
C25	1-162-306-11	CERAMIC 0.01uF	30% 16V				(AEP, UK, G, IT)
C26	1-124-126-00	ELECT 47uF	20% 16V	C90	1-162-306-11	CERAMIC 0.01uF	30% 16V
C27	1-162-306-11	CERAMIC 0.01uF	30% 16V				(AEP, UK, G, IT)
C28	1-124-126-00	ELECT 47uF	20% 16V	C91	1-162-291-31	CERAMIC 560PF	10% 50V
							(AEP, UK, G, IT)
C29	1-162-306-11	CERAMIC 0.01uF	30% 16V				
C30	1-124-257-00	ELECT 2.2uF	20% 50V				

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C92	1-162-306-11	CERAMIC	0.01uF 30% 16V (AEP, UK, G, IT)	C182	1-126-964-11	ELECT	10uF 20% 50V
C93	1-126-933-11	ELECT	100uF 20% 10V (AEP, UK, G, IT)	C183	1-162-294-31	CERAMIC	0.001uF 10% 50V
C94	1-126-964-11	ELECT	10uF 20% 50V (AEP, UK, G, IT)	C184	1-162-294-31	CERAMIC	0.001uF 10% 50V
C95	1-162-306-11	CERAMIC	0.01uF 20% 16V	C194	1-162-306-11	CERAMIC	0.01uF 30% 16V
C101	1-162-286-31	CERAMIC	220PF 10% 50V	C195	1-162-306-11	CERAMIC	0.01uF 30% 16V
C102	1-162-600-11	CERAMIC	0.0047uF 10% 16V	C196	1-126-964-11	ELECT	10uF 20% 50V
C112	1-162-306-11	CERAMIC	0.01uF 30% 16V	C197	1-162-306-11	CERAMIC	0.01uF 30% 16V
C113	1-162-306-11	CERAMIC	0.01uF 30% 16V	C199	1-124-257-00	ELECT	2.2uF 20% 50V
C124	1-126-964-11	ELECT	10uF 20% 50V	C300	1-162-294-31	CERAMIC	0.001uF 10% 50V
C125	1-136-161-00	FILM	0.047uF 5% 50V	C303	1-136-165-00	FILM	0.1uF 5% 50V
C126	1-136-161-00	FILM	0.047uF 5% 50V	C304	1-162-206-31	CERAMIC	20PF 5% 50V
C127	1-136-169-00	FILM	0.22uF 5% 50V	C305	1-162-206-31	CERAMIC	20PF 5% 50V
C128	1-162-305-11	CERAMIC	0.0068uF 30% 16V	C306	1-164-159-11	CERAMIC	0.1uF 50V
C129	1-136-159-00	FILM	0.033uF 5% 50V	C307	1-162-286-31	CERAMIC	220PF 10% 50V
C130	1-162-306-11	CERAMIC	0.01uF 20% 16V	C312	1-162-306-11	CERAMIC	0.01uF 30% 16V
C131	1-136-169-00	FILM	0.22uF 5% 50V	C314	1-126-926-11	ELECT	1000uF 20% 10V
C132	1-136-169-00	FILM	0.22uF 5% 50V	C320	1-126-927-11	ELECT	2200uF 20% 10V
C133	1-126-964-11	ELECT	10uF 20% 50V	C380	1-126-964-11	ELECT	10uF 20% 50V
C134	1-126-964-11	ELECT	10uF 20% 50V	C381	1-162-294-31	CERAMIC	0.001uF 10% 50V
C135	1-136-169-00	FILM	0.22uF 5% 50V	C383	1-162-290-31	CERAMIC	470PF 10% 50V
C136	1-136-169-00	FILM	0.22uF 5% 50V	C398	1-162-306-11	CERAMIC	0.01uF 30% 16V
C137	1-162-306-11	CERAMIC	0.01uF 20% 16V	C401	1-162-286-31	CERAMIC	220PF 10% 50V
C138	1-136-159-00	FILM	0.033uF 5% 50V	C402	1-130-479-00	MYLAR	0.0047uF 5% 50V
C139	1-162-305-11	CERAMIC	0.0068uF 30% 16V	C403	1-162-303-11	CERAMIC	0.0033uF 20% 16V
C140	1-136-169-00	FILM	0.22uF 5% 50V	C404	1-164-159-11	CERAMIC	0.1uF 50V
C141	1-136-161-00	FILM	0.047uF 5% 50V	C406	1-124-903-11	ELECT	1uF 20% 50V
C142	1-161-494-00	CERAMIC	0.022uF 25V	C407	1-124-902-00	ELECT	0.47uF 20% 50V
C143	1-126-964-11	ELECT	10uF 20% 50V	C408	1-126-964-11	ELECT	10uF 20% 50V
C144	1-162-306-11	CERAMIC	0.01uF 30% 16V	C409	1-124-464-11	ELECT	0.22uF 20% 50V
C145	1-124-257-00	ELECT	2.2uF 20% 50V	C410	1-162-600-11	CERAMIC	0.0047uF 30% 16V
C146	1-126-964-11	ELECT	10uF 20% 50V	C411	1-124-903-11	ELECT	1uF 20% 50V
C147	1-162-306-11	CERAMIC	0.01uF 30% 16V	C422	1-126-933-11	ELECT	100uF 20% 10V
C149	1-124-257-00	ELECT	2.2uF 20% 50V	C423	1-126-933-11	ELECT	100uF 20% 10V
C150	1-164-159-11	CERAMIC	0.1uF 50V	C424-426	1-164-159-11	CERAMIC	0.1uF 50V
C151	1-162-286-31	CERAMIC	220PF 10% 50V	C427	1-126-952-11	ELECT	1000uF 20% 16V
C152-154	1-162-600-11	CERAMIC	0.0047uF 10% 16V	C428	1-126-933-11	ELECT	100uF 20% 16V
C160	1-164-159-11	CERAMIC	0.1uF 50V	C430	1-126-964-11	ELECT	10uF 20% 50V
C161-164	1-136-165-00	FILM	0.1uF 5% 50V	C431	1-126-964-11	ELECT	10uF 20% 50V
C165	1-162-306-11	CERAMIC	0.01uF 20% 16V	C451	1-162-286-31	CERAMIC	220PF 10% 50V
C166	1-162-306-11	CERAMIC	0.01uF 20% 16V	C452	1-130-479-00	MYLAR	0.0047uF 5% 50V
C171	1-109-889-11	ELECT	1uF 20% 50V	C453	1-162-303-11	CERAMIC	0.0033uF 20% 16V
C172	1-109-889-11	ELECT	1uF 20% 50V	C454	1-164-159-11	CERAMIC	0.1uF 50V
C173	1-126-964-11	ELECT	10uF 20% 50V	C456	1-124-903-11	ELECT	1uF 20% 50V
C174	1-126-964-11	ELECT	10uF 20% 50V	C457	1-124-902-00	ELECT	0.47uF 20% 50V
C181	1-126-964-11	ELECT	10uF 20% 50V	C458	1-126-964-11	ELECT	10uF 20% 50V
				C459	1-124-464-11	ELECT	0.22uF 20% 50V
				C460	1-162-600-11	CERAMIC	0.0047uF 30% 16V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark
C461	1-124-903-11	ELECT	1uF	20%	50V			< FILTER >	
C801	1-136-165-00	FILM	0. 1uF	5%	50V				
				(AEP, UK, G, IT, EE)			CF1	1-567-389-11	FILTER, CERAMIC
C801	1-137-399-11	FILM	0. 1uF	10%	100V		CF2	1-567-389-11	FILTER, CERAMIC (AE2, UK, G, IT)
				(E, EA, SP, MY, HK, MX, AR, AUS)			CF3	1-567-389-11	FILTER, CERAMIC
C802	1-136-165-00	FILM	0. 1uF	5%	50V			< CONNECTOR >	
				(AEP, UK, G, IT, EE)			CN101	1-691-767-11	PLUG (MICRO CONNECTOR) 5P
C802	1-137-399-11	FILM	0. 1uF	10%	100V		* CN103	1-568-954-11	PIN, CONNECTOR 5P
				(E, EA, SP, MY, HK, MX, AR, AUS)			* CN105	1-568-836-11	SOCKET, CONNECTOR 17P
C803	1-126-974-11	ELECT	3300uF	20%	50V		CN111	1-568-802-11	SOCKET, CONNECTOR 19P
				(AEP, UK, G, IT, EE)			CN401	1-568-838-11	SOCKET, CONNECTOR 21P
C803	1-126-138-11	ELECT	4700uF	20%	50V				
				(E, EA, SP, MY, HK, MX, AR, AUS)			* CN402	1-568-830-11	SOCKET, CONNECTOR 11P
C804	1-126-974-11	ELECT	3300uF	20%	50V		* CN404	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P
				(AEP, UK, G, IT, EE)					< VARIABLE CAPACITOR >
C804	1-126-138-11	ELECT	4700uF	20%	50V				
				(E, EA, SP, MY, HK, MX, AR, AUS)			CV1	1-141-227-00	CAP, TRIMMER 20PF (E3, EA, SP, MY, HK)
C805	1-124-122-11	ELECT	100uF	20%	50V		CV2	1-141-227-00	CAP, TRIMMER 20PF (E3, EA, SP, MY, HK)
C806	1-124-122-11	ELECT	100uF	20%	50V				
									< DIODE >
C808	1-126-947-11	ELECT	47uF	20%	35V		D1	8-719-976-30	DIODE KV1560N (E3, EA, SP, MY, HK)
C809	1-126-936-11	ELECT	3300uF	20%	16V		D21	8-719-933-33	DIODE HZS6A1L
C810	1-126-943-11	ELECT	2200uF	20%	25V				(E, EA, AR, HK, MY, SP, AUS, EE)
C811	1-126-952-11	ELECT	1000uF	20%	16V		D41	8-719-987-63	DIODE 1N4148M
C812	1-126-952-11	ELECT	1000uF	20%	16V		D81	8-719-933-33	DIODE HZS6A1L (AEP, UK, G, IT)
							D82	8-719-987-63	DIODE 1N4148M (AEP, UK, G, IT)
C813	1-164-159-11	CERAMIC	0. 1uF		50V		D83	8-719-987-63	DIODE 1N4148M (AEP, UK, G, IT)
C814	1-164-159-11	CERAMIC	0. 1uF		50V		D101	8-719-010-33	DIODE UZ-4. 7BSB-TP
C815	1-126-933-11	ELECT	100uF	20%	10V		D102-105		
C824	1-126-933-11	ELECT	100uF	20%	10V			8-719-987-63	DIODE 1N4148M
C825	1-126-933-11	ELECT	100uF	20%	10V		D106	8-719-210-21	DIODE 11EQS04-TA2B
							D107	8-719-987-63	DIODE 1N4148M
C826	1-126-916-11	ELECT	1000uF	20%	6. 3V		D301	8-719-024-99	DIODE 11ES2-NTA2B
C827	1-126-925-11	ELECT	470uF	20%	10V		D302	8-719-987-63	DIODE 1N4148M
C828	1-124-635-00	ELECT	220uF	20%	6. 3V		D304	8-719-987-63	DIODE 1N4148M
C829	1-124-635-00	ELECT	220uF	20%	6. 3V		D305	8-719-987-63	DIODE 1N4148M (AEP, UK, G, IT)
C830	1-124-257-00	ELECT	2. 2uF	20%	50V		D401	8-719-987-63	DIODE 1N4148M
							D402	8-719-987-63	DIODE 1N4148M
C831	1-126-964-11	ELECT	10uF	20%	50V				(E, EA, AR, HK, MX, MY, SP, AUS, EE)
C832	1-126-964-11	ELECT	10uF	20%	50V		D801	8-719-987-63	DIODE 1N4148M
C833	1-126-233-11	ELECT	22uF	20%	50V		D802	8-719-987-63	DIODE 1N4148M
C834	1-136-165-00	FILM	0. 1uF	5%	50V		D803	8-719-312-09	DIODE RBA-402 (AEP, UK, G, IT, EE)
C835	1-126-933-11	ELECT	100uF	20%	10V		D803	8-719-510-68	DIODE D5SBA20F01
									(E, EA, SP, MY, HK, MX, AR, AUS)
C835	1-126-964-11	ELECT	10uF	20%	50V		D804	8-719-024-99	DIODE 11ES2-NTA2B
C836	1-164-159-11	CERAMIC	0. 1uF		50V		D805	8-719-024-99	DIODE 11ES2-NTA2B
C837	1-164-159-11	CERAMIC	0. 1uF		50V		D806	8-719-934-18	DIODE HZS27-2L
C838	1-126-933-11	ELECT	100uF	20%	10V		D807	8-719-024-99	DIODE 11ES2-NTA2B
C840	1-124-126-00	ELECT	47uF	20%	16V		D808	8-719-024-99	DIODE 11ES2-NTA2B
C886	1-164-159-11	CERAMIC	0. 1uF		50V				
C887	1-164-159-11	CERAMIC	0. 1uF		50V				
C9001	1-162-306-11	CERAMIC	0. 01uF	20%	16V				
				(AEP, G, IT, UK)					
C9002	1-162-306-11	CERAMIC	0. 01uF	20%	16V				
				(AEP, G, IT, UK)					

MAIN

Ref.No.	Part No.	Description	Remark
D809	8-719-987-63	DIODE 1N4148M	
D810	8-719-987-63	DIODE 1N4148M	
D811	8-719-024-99	DIODE 11ES2-NTA2B	
D812	8-719-024-99	DIODE 11ES2-NTA2B (AEP, UK, G, IT, EE)	
D812	8-719-210-21	DIODE 11EQS04 (E, EA, AR, HK, MX, MY, SP, AUS)	
D813	8-719-024-99	DIODE 11ES2-NTA2B	
D814	8-719-024-99	DIODE 11ES2-NTA2B (AEP, UK, G, IT, EE)	
D814	8-719-210-21	DIODE 11EQS04 (E, EA, AR, HK, MX, MY, SP, AUS)	
D815	8-719-987-63	DIODE 1N4148M	
D817	8-719-987-63	DIODE 1N4148M (E, EA, AR, HK, MX, MY, SP, AUS, EE)	
D819	8-719-987-63	DIODE 1N4148M	
D823	8-719-024-99	DIODE 11ES2-NTA2B	
D824	8-719-024-99	DIODE 11ES2-NTA2B	
< FRONT END >			
FE1	1-465-673-11	FRONT END (2 BAND) (AE1, UK1)	
FE1	1-693-217-11	FRONT END (4 GANG) (AE2, UK2, G, IT)	
FE1	1-465-396-11	FRONT END (3 GANG) (EE)	
FE1	1-693-090-51	FRONT END (FM) (2 GANG) (E, EA, SP, MY, HK, MX, AR, AUS)	
FE2	1-233-281-11	ENCAPSULATED COMPONENT (AEP, UK, EE)	
FE2	1-239-260-11	ENCAPSULATED COMPONENT (G, IT, E2, MX, AR, AUS)	
FE2	1-239-262-11	ENCAPSULATED COMPONENT (E3, EA, SP, MY, HK)	
< IC >			
IC1	8-759-200-60	IC TA7060AP (AE2, UK, G, IT)	
IC2	8-759-200-60	IC TA7060AP (AE2, UK, G, IT)	
IC21	8-759-288-54	IC LC72130	
IC41	8-759-176-03	IC LA1835	
IC81	8-759-634-51	IC M5218AP (AEP, UK, G, IT)	
IC82	8-759-169-99	IC SAA6579 (AEP, UK, G, IT)	
IC83	8-759-062-26	IC LC7073 (AEP, UK, G, IT)	
IC101	8-759-333-93	IC TMP87CP64F-6254	
IC102	8-759-000-48	IC MC14052BCP	
IC104	8-759-140-53	IC uPD4053BC (E, EA, SP, MY, HK, MX, AR, AUS)	
IC105	8-759-822-09	IC LB1641	
IC107	8-759-634-51	IC M5218AP	
IC108	8-759-291-98	IC M62423FP	
IC109	8-759-281-42	IC TC9210P	
IC301	8-759-916-14	IC SN74HC04AN	
IC401	8-759-289-38	IC HA12195NT	
IC402	8-759-822-09	IC LB1641	
IC801	8-759-111-68	IC uPC1237HA	
IC802	8-759-231-53	IC TA7805S	
IC803	8-759-231-58	IC TA7812S	

Ref.No.	Part No.	Description	Remark
IC804	8-759-288-53	IC LA5617	
IC805	8-759-165-80	IC PST600C-T	
IC806	8-759-604-30	IC M5F7808	
< IFT >			
IFT41	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)	
< JACK >			
* J101	1-569-130-11	JACK, PIN 2P (AUX)	
< COIL >			
L1	1-410-521-11	INDUCTOR 100uH (E3, EA, SP, MY, HK)	
L2	1-408-397-00	INDUCTOR 1uH (AEP, UK, G, IT)	
L41	1-407-500-00	INDUCTOR 4.7mH	
L81	1-410-521-11	INDUCTOR 100uH (AEP, UK, G, IT)	
L401	1-410-482-31	INDUCTOR 100uH	
L801	1-420-872-00	COIL, AIR-CORE (AE2, UK, G, IT)	
L851	1-420-872-00	COIL, AIR-CORE (AE2, UK, G, IT)	
< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS	
LPF42	1-239-845-11	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY (AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)	
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY (AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)	
Q3	8-729-422-57	TRANSISTOR UN4111	
Q8	8-729-231-20	TRANSISTOR 2SK161-YGR (E3, EA, SP, MY, HK)	
Q9	8-729-119-76	TRANSISTOR 2SA1175-HFE (E3, EA, SP, MY, HK)	
Q10	8-729-119-76	TRANSISTOR 2SA1175-HFE (E3, EA, SP, MY, HK)	
Q11	8-729-900-80	TRANSISTOR DTC114ES (AEP, UK, EE)	
Q12	8-729-900-80	TRANSISTOR DTC114ES (AEP, UK, EE, E3, EA, SP, MY, HK)	
Q13	8-729-900-80	TRANSISTOR DTC114ES (AEP, UK, EE, E3, EA, SP, MY, HK)	
Q14	8-729-900-80	TRANSISTOR DTC114ES (AEP, UK, EE, E3, EA, SP, MY, HK)	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-900-80	TRANSISTOR DTC114ES	
Q108	8-729-900-80	TRANSISTOR DTC114ES	
Q110	8-729-900-80	TRANSISTOR DTC114ES (E, EA, SP, MY, HK, MX, AR, AUS)	
Q170	8-729-422-57	TRANSISTOR UN4111	
Q171	8-729-116-83	TRANSISTOR 2SD1616K	
Q172	8-729-116-83	TRANSISTOR 2SD1616K	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q173	8-729-119-78	TRANSISTOR	2SC2785-HFE	R19	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, EE, E3, EA, SP, MY, HK)
Q174	8-729-119-78	TRANSISTOR	2SC2785-HFE	R20	1-247-903-00	CARBON 1M 5% 1/4W	(E3, EA, SP, MY, HK)
Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE	R21-24	1-249-417-11	CARBON 1K 5% 1/4W	
Q305	8-729-119-76	TRANSISTOR	2SA1175-HFE	R25	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q306	8-729-900-63	TRANSISTOR	DTA124ES	R26	1-249-435-11	CARBON 33K 5% 1/4W	
Q401	8-729-119-78	TRANSISTOR	2SC2785-HFE	R27	1-249-429-11	CARBON 10K 5% 1/4W	
Q403	8-729-900-65	TRANSISTOR	DTA144ES	R28	1-249-417-11	CARBON 1K 5% 1/4W	
Q404	8-729-119-78	TRANSISTOR	2SC2785-HFE	R29	1-249-423-11	CARBON 3.3K 5% 1/4W	
Q405-407	8-729-116-83	TRANSISTOR	2SD1616K	R30	1-247-807-31	CARBON 100 5% 1/4W	(E, EA, AR, HK, MX, MY, SP, AUS)
Q408	8-729-422-57	TRANSISTOR	UN4111	R30	1-247-811-31	CARBON 150 5% 1/4W	(AEP, G, IT, EE, UK)
Q409	8-729-900-80	TRANSISTOR	DTC114ES	R31	1-247-807-31	CARBON 100 5% 1/4W	
Q410	8-729-119-76	TRANSISTOR	2SA1175-HFE	R32	1-249-421-11	CARBON 2.2K 5% 1/4W	
Q411	8-729-900-80	TRANSISTOR	DTC114ES	R33-35	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q412-414	8-729-900-65	TRANSISTOR	DTA144ES	R36	1-247-807-31	CARBON 100 5% 1/4W	
Q451	8-729-119-78	TRANSISTOR	2SC2785-HFE	R37	1-249-429-11	CARBON 10K 5% 1/4W	
Q801	8-729-900-63	TRANSISTOR	DTA124ES	R38	1-249-437-11	CARBON 47K 5% 1/4W	
Q802	8-729-900-89	TRANSISTOR	DTC144ES	R41	1-249-437-11	CARBON 47K 5% 1/4W	
Q807	8-729-900-89	TRANSISTOR	DTC144ES	R42	1-249-423-11	CARBON 3.3K 5% 1/4W	
Q808	8-729-118-01	TRANSISTOR	2SB1116-K	R43	1-249-442-11	CARBON 510 5% 1/4W	
Q809	8-729-900-89	TRANSISTOR	DTC144ES	R44	1-247-807-31	CARBON 100 5% 1/4W	
Q810	8-729-118-01	TRANSISTOR	2SB1116-K	R45	1-247-842-11	CARBON 3K 5% 1/4W	
Q811	8-729-118-01	TRANSISTOR	2SB1116-K	R46	1-249-429-11	CARBON 10K 5% 1/4W	
Q812	8-729-422-57	TRANSISTOR	UN4111	R47	1-249-441-11	CARBON 100K 5% 1/4W	
Q813	8-729-116-83	TRANSISTOR	2SD1616-K	R48	1-249-423-11	CARBON 3.3K 5% 1/4W	
Q814	8-729-900-80	TRANSISTOR	DTC114ES	R49	1-249-423-11	CARBON 3.3K 5% 1/4W	
< RESISTOR >				R50	1-249-426-11	CARBON 5.6K 5% 1/4W	
R3	1-247-807-31	CARBON 100 5% 1/4W		R51	1-249-426-11	CARBON 5.6K 5% 1/4W	
R4	1-249-411-11	CARBON 330 5% 1/4W		R52	1-249-435-11	CARBON 33K 5% 1/4W	
R5	1-249-411-11	CARBON 330 5% 1/4W		R53	1-249-429-11	CARBON 10K 5% 1/4W	
R6	1-249-409-11	CARBON 220 5% 1/4W	(AEP, G, IT, EE, UK)	R54	1-249-399-11	CARBON 33 5% 1/4W	
R6	1-249-413-11	CARBON 470 5% 1/4W	(E, EA, AR, HK, MX, MY, SP, AUS)	R81	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R7	1-249-411-11	CARBON 330 5% 1/4W		R82	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, G, IT)
R8	1-249-432-11	CARBON 18K 5% 1/4W		R83	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, UK, G, IT)
R9	1-249-434-11	CARBON 27K 5% 1/4W		R84	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, UK, G, IT)
R10	1-249-411-11	CARBON 330 5% 1/4W		R85	1-249-421-11	CARBON 2.2K 5% 1/4W	(AEP, UK, G, IT)
R11	1-249-411-11	CARBON 330 5% 1/4W	(AE2, UK, G, IT)	R86	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R12	1-249-432-11	CARBON 18K 5% 1/4W	(AE2, UK, G, IT)	R87	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R13	1-249-434-11	CARBON 27K 5% 1/4W	(AE2, UK, G, IT)	R88	1-249-426-11	CARBON 5.6K 5% 1/4W	(AEP, UK, G, IT)
R14	1-249-411-11	CARBON 330 5% 1/4W	(AE2, UK, G, IT)	R91	1-249-425-11	CARBON 4.7K 5% 1/4W	(E3, EA, SP, MY, HK)
R15	1-249-414-11	CARBON 560 5% 1/4W	(AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)	R92-94	1-249-429-11	CARBON 10K 5% 1/4W	(E3, EA, SP, MY, HK)
R17	1-247-807-31	CARBON 100 5% 1/4W		R101	1-249-425-11	CARBON 4.7K 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, EE, E3, EA, SP, MY, HK)	R102	1-249-427-11	CARBON 6.8K 5% 1/4W	
				R111	1-249-429-11	CARBON 10K 5% 1/4W	
				R112	1-249-429-11	CARBON 10K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description	Remark
R114	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R128-130			
R131	1-249-441-11	CARBON 100K 5% 1/4W	
R131	1-247-903-00	CARBON 1M 5% 1/4W	
R133	1-249-417-11	CARBON 1K 5% 1/4W	
R134	1-247-895-00	CARBON 470K 5% 1/4W	
R135	1-249-441-11	CARBON 100K 5% 1/4W	
R144	1-249-415-11	CARBON 680 5% 1/4W	
R145	1-249-417-11	CARBON 1K 5% 1/4W	
R148	1-249-431-11	CARBON 15K 5% 1/4W	
R149	1-249-441-11	CARBON 100K 5% 1/4W	
R150	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R151	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R152	1-249-427-11	CARBON 6. 8K 5% 1/4W	
R154	1-249-441-11	CARBON 100K 5% 1/4W	
R155	1-249-441-11	CARBON 100K 5% 1/4W	
R156	1-249-429-11	CARBON 10K 5% 1/4W	
R157	1-249-429-11	CARBON 10K 5% 1/4W	
R158	1-249-433-11	CARBON 22K 5% 1/4W	
R159	1-249-433-11	CARBON 22K 5% 1/4W	
R160	1-249-429-11	CARBON 10K 5% 1/4W	
R161	1-249-429-11	CARBON 10K 5% 1/4W	
R162	1-247-895-00	CARBON 470K 5% 1/4W	
R163	1-247-895-00	CARBON 470K 5% 1/4W	
R164	1-249-419-11	CARBON 1. 5K 5% 1/4W	
R165	1-249-419-11	CARBON 1. 5K 5% 1/4W	
R168	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R169	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R170	1-249-441-11	CARBON 100K 5% 1/4W	
R171	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R172	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R173	1-249-429-11	CARBON 10K 5% 1/4W	
R174	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R175	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R176	1-249-429-11	CARBON 10K 5% 1/4W	
R178	1-249-423-11	CARBON 3. 3K 5% 1/4W	
R180	1-249-441-11	CARBON 100K 5% 1/4W	
R181	1-249-429-11	CARBON 10K 5% 1/4W	
R182	1-249-429-11	CARBON 10K 5% 1/4W	
R183	1-249-413-11	CARBON 470 5% 1/4W	
R184	1-247-903-00	CARBON 1M 5% 1/4W	
R185	1-247-903-00	CARBON 1M 5% 1/4W	
R188	1-249-423-11	CARBON 3. 3K 5% 1/4W	
R194	1-249-415-11	CARBON 680 5% 1/4W	
R195	1-249-417-11	CARBON 1K 5% 1/4W	
R198	1-249-431-11	CARBON 15K 5% 1/4W	
R199	1-249-441-11	CARBON 100K 5% 1/4W	
R300	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R301	1-249-429-11	CARBON 10K 5% 1/4W	
R304	1-249-437-11	CARBON 47K 5% 1/4W	
R306	1-249-429-11	CARBON 10K 5% 1/4W	
R307	1-249-429-11	CARBON 10K 5% 1/4W	
R309-315			
	1-247-807-31	CARBON 100 5% 1/4W	
R316	1-249-437-11	CARBON 47K 5% 1/4W	
R317	1-249-433-11	CARBON 22K 5% 1/4W	
R318-320			
	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R325	1-249-429-11	CARBON 10K 5% 1/4W	
R333	1-249-423-11	CARBON 3. 3K 5% 1/4W	
R334	1-249-429-11	CARBON 10K 5% 1/4W	
R335	1-249-429-11	CARBON 10K 5% 1/4W	
R338-347			
	1-247-807-31	CARBON 100 5% 1/4W	
R348	1-249-413-11	CARBON 470 5% 1/4W	
R349	1-249-413-11	CARBON 470 5% 1/4W	
R364	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R373	1-249-433-11	CARBON 22K 5% 1/4W	(AEP, UK)
R373	1-249-429-11	CARBON 10K 5% 1/4W	(G, E2, MX, AR, AUS)
R373	1-249-431-11	CARBON 15K 5% 1/4W	(IT, EE)
R373	1-249-423-11	CARBON 3. 3K 5% 1/4W	(E3, EA, SP, MY, HK)
R374	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, G, IT, EA)
R374	1-249-423-11	CARBON 3. 3K 5% 1/4W	(EE)
R374	1-249-433-11	CARBON 22K 5% 1/4W	(E2, MX, AR)
R374	1-249-431-11	CARBON 15K 5% 1/4W	(E3, SP, MY, HK, AUS)
R375	1-249-418-11	CARBON 1. 2K 5% 1/4W	
R376	1-249-431-11	CARBON 15K 5% 1/4W	
R378-381			
	1-249-429-11	CARBON 10K 5% 1/4W	
R395	1-249-421-11	CARBON 2. 2K 5% 1/4W	(AEP, UK, G, IT)
R401	1-249-430-11	CARBON 12K 5% 1/4W	
R402	1-249-431-11	CARBON 15K 5% 1/4W	
R403	1-249-427-11	CARBON 6. 8K 5% 1/4W	
R404	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R405	1-249-418-11	CARBON 1. 2K 5% 1/4W	
R406	1-249-417-11	CARBON 1K 5% 1/4W	
R407	1-249-437-11	CARBON 47K 5% 1/4W	
R408	1-249-417-11	CARBON 1K 5% 1/4W	
R409	1-249-433-11	CARBON 22K 5% 1/4W	
R420	1-249-432-11	CARBON 18K 5% 1/4W	
R421-429			
	1-249-429-11	CARBON 10K 5% 1/4W	
R430	1-247-866-11	CARBON 30K 5% 1/4W	
R431	1-247-882-11	CARBON 130K 5% 1/4W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R432	1-249-429-11	CARBON 10K 5% 1/4W		R830	1-249-409-11	CARBON 220 5% 1/4W	
R433-435				R831	1-249-439-11	CARBON 68K 5% 1/4W	
	1-249-425-11	CARBON 4.7K 5% 1/4W		R832-834			
R436	1-249-417-11	CARBON 1K 5% 1/4W			1-249-389-11	CARBON 4.7 5% 1/4W (AE2, UK, G, IT)	
R437	1-249-436-11	CARBON 39K 5% 1/4W		R834	1-249-393-11	CARBON 10 5% 1/4W	
R438	1-249-436-11	CARBON 39K 5% 1/4W				(AE1, E, EA, AR, HK, MX, MY, SP, AUS, EE)	
R439	1-249-437-11	CARBON 47K 5% 1/4W		R835	1-249-409-11	CARBON 220 5% 1/4W	
R440	1-249-437-11	CARBON 47K 5% 1/4W		R836	1-249-397-11	CARBON 22 5% 1/4W	
R441	1-249-381-11	CARBON 1 5% 1/4W		R838	1-249-429-11	CARBON 10K 5% 1/4W	
R442	1-249-413-11	CARBON 470 5% 1/4W		R840	1-249-417-11	CARBON 1K 5% 1/4W	
R443	1-249-381-11	CARBON 1 5% 1/4W				(AEP, UK, G, IT, EE)	
R444	1-249-413-11	CARBON 470 5% 1/4W		R840	1-260-099-11	CARBON 1K 5% 1/2W	
R445	1-249-381-11	CARBON 1 5% 1/4W				(E, EA, SP, MY, HK, MX, AR, AUS)	
R446	1-249-413-11	CARBON 470 5% 1/4W		R841	1-249-417-11	CARBON 1K 5% 1/4W	
R447	1-249-419-11	CARBON 1.5K 5% 1/4W				(AEP, UK, G, IT, EE)	
R448	1-249-433-11	CARBON 22K 5% 1/4W		R841	1-260-099-11	CARBON 1K 5% 1/2W	
R449	1-249-435-11	CARBON 33K 5% 1/4W				(E, EA, SP, MY, HK, MX, AR, AUS)	
R450	1-249-433-11	CARBON 22K 5% 1/4W		R881	1-249-437-11	CARBON 47K 5% 1/4W	
R451	1-249-430-11	CARBON 12K 5% 1/4W		R882-884			
R452	1-249-431-11	CARBON 15K 5% 1/4W			1-249-389-11	CARBON 4.7 5% 1/4W (AE2, UK, G, IT)	
R453	1-249-427-11	CARBON 6.8K 5% 1/4W		R884	1-249-393-11	CARBON 10 5% 1/4W	
R454	1-249-425-11	CARBON 4.7K 5% 1/4W				(AE1, E, EA, AR, HK, MX, MY, SP, AUS, EE)	
R455	1-249-418-11	CARBON 1.2K 5% 1/4W		R890	1-249-417-11	CARBON 1K 5% 1/4W	
R456	1-249-417-11	CARBON 1K 5% 1/4W				(AEP, UK, G, IT, EE)	
R457	1-249-437-11	CARBON 47K 5% 1/4W		R890	1-260-099-11	CARBON 1K 5% 1/2W	
R458	1-249-417-11	CARBON 1K 5% 1/4W				(E, EA, SP, MY, HK, MX, AR, AUS)	
R459	1-249-433-11	CARBON 22K 5% 1/4W		R891	1-249-417-11	CARBON 1K 5% 1/4W	
R460-462						(AEP, UK, G, IT, EE)	
	1-249-425-11	CARBON 4.7K 5% 1/4W		R891	1-260-099-11	CARBON 1K 5% 1/2W	
R470	1-249-433-11	CARBON 22K 5% 1/4W				(E, EA, SP, MY, HK, MX, AR, AUS)	
R480	1-247-864-11	CARBON 24K 5% 1/4W		< VARIABLE RESISTOR >			
△R801	1-219-122-91	FUSIBLE 0.33 5% 1/4W F		RV41	1-241-765-11	RES, ADJ, CARBON 22K (AM TUNING LEVEL)	
△R802	1-219-122-91	FUSIBLE 0.33 5% 1/4W F		RV42	1-241-630-11	RES, ADJ, CARBON 10K (FM TUNING LEVEL)	
R803	1-249-429-11	CARBON 10K 5% 1/4W		RV401	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL L)	
R804	1-249-429-11	CARBON 10K 5% 1/4W		RV451	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL R)	
△R805	1-219-122-91	FUSIBLE 0.33 5% 1/4W F		< RELAY >			
R806	1-249-417-11	CARBON 1K 5% 1/4W		RY801	1-515-921-11	RELAY (12V)	
R808	1-249-417-11	CARBON 1K 5% 1/4W		< TRANSFORMER >			
△R814	1-219-122-91	FUSIBLE 0.33 5% 1/4W F		T1	1-409-505-11	COIL (ANT. SW3) (E3, EA, SP, MY, HK)	
R820	1-249-421-11	CARBON 2.2K 5% 1/4W		T2	1-402-960-11	COIL (OSC SW3) (E3, EA, SP, MY, HK)	
R821	1-249-409-11	CARBON 220 5% 1/4W		< TERMINAL >			
R822	1-249-429-11	CARBON 10K 5% 1/4W		TB101	1-537-240-31	TERMINAL BOARD (SPEAKER)	
R823	1-249-421-11	CARBON 2.2K 5% 1/4W		TB102	1-537-240-31	TERMINAL BOARD (SURROUND SPEAKER)	
R824	1-249-429-11	CARBON 10K 5% 1/4W		< TERMINAL >			
R825	1-249-441-11	CARBON 100K 5% 1/4W		TM1	1-537-488-11	TERMINAL BOARD (ANTENNA) (AEP, UK, G, IT, EE)	
R826	1-249-397-11	CARBON 22 5% 1/4W		TM1	1-537-238-21	TERMINAL BOARD (E, EA, SP, MY, HK, MX, AR, AUS)	
R827	1-249-435-11	CARBON 33K 5% 1/4W					
R828	1-249-425-11	CARBON 4.7K 5% 1/4W					
R829	1-249-425-11	CARBON 4.7K 5% 1/4W					

The components identified by mark **△** or dotted line with mark **△** are critical for safety. Replace only with part number specified.

MAIN PANEL AMS ENCODER

Ref. No.	Part No.	Description	Remark
< FILTER >			
X41	1-760-220-21	FILTER, CERAMIC	
X42	1-527-981-00	FILTER, CERAMIC	
< VIBRATOR >			
X21	1-578-785-11	VIBRATOR, CRYSTAL (4.5MHz)	
X43	1-577-075-11	OSCILLATOR, CERAMIC (19MHz)	
X81	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)	(AEP, UK, G, IT)
X82	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	(AEP, UK, G, IT)
X301	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X302	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

*	A-4377-338-A	PANEL BOARD, COMPLETE (E2, MX, AR, AUS)	
*	A-4377-350-A	PANEL BOARD, COMPLETE (AEP, UK, G, IT, EE)	
*	A-4378-564-A	PANEL BOARD, COMPLETE (E3, EA, SP, MY, HK)	

AMS ENCODER BOARD			

*	4-971-014-11	HOLDER, FL TUBE	
< CAPACITOR >			
C501	1-124-261-00	ELECT 10uF	20% 50V
C502	1-162-282-31	CERAMIC 100PF	10% 50V
C503	1-124-589-11	ELECT 47uF	20% 16V
C504-507	1-162-306-11	CERAMIC 0.01uF	30% 16V
C508	1-162-294-31	CERAMIC 0.001uF	10% 50V
C511-547	1-162-286-31	CERAMIC 220PF	10% 50V
C548	1-162-294-31	CERAMIC 0.001uF	10% 50V
C549	1-124-257-00	ELECT 2.2uF	20% 50V
C550	1-164-159-11	CERAMIC 0.1uF	50V
C551	1-126-163-11	ELECT 4.7uF	20% 50V
C559	1-162-294-31	CERAMIC 0.001uF	10% 50V
C560	1-162-294-31	CERAMIC 0.001uF	10% 50V
C600-602	1-162-306-11	CERAMIC 0.01uF	30% 16V
C603	1-124-257-00	ELECT 2.2uF	20% 50V
C604	1-162-303-11	CERAMIC 0.0033uF	30% 16V
C605	1-162-303-11	CERAMIC 0.0033uF	30% 16V
C606	1-162-306-11	CERAMIC 0.01uF	30% 16V
C607	1-124-257-00	ELECT 2.2uF	20% 50V
C608	1-162-294-31	CERAMIC 0.001uF	10% 50V
C609	1-162-294-31	CERAMIC 0.001uF	10% 50V
C610	1-162-306-11	CERAMIC 0.01uF	30% 16V
C611	1-124-257-00	ELECT 2.2uF	20% 50V
C612	1-162-286-31	CERAMIC 220PF	10% 50V

Ref. No.	Part No.	Description	Remark
C613	1-162-286-31	CERAMIC 220PF	10% 50V
C614	1-162-306-11	CERAMIC 0.01uF	30% 16V
C615	1-124-257-00	ELECT 2.2uF	20% 50V
< CONNECTOR >			
CN501	1-568-860-11	SOCKET, CONNECTOR 17P	
* CN503	1-568-945-11	PIN, CONNECTOR 7P	
* CN507	1-564-518-11	PLUG, CONNECTOR 3P	
< DIODE >			
D504	8-719-052-43	LED SML59420C-TP4 (▶▶)	
D505	8-719-300-71	LED SEL2210R (REC●)	
D506	8-719-033-06	LED SEL5920A (USER FILE)	
D507	8-719-301-59	LED SEL2910A (POSP)	
D508	8-719-301-59	LED SEL2910A (CLASSIC)	
D510	8-719-301-59	LED SEL2910A (CD)	
D511	8-719-812-44	LED TLO124 (ENTER/NEXT)	
D519	8-719-329-10	LED SEL2910D-TP3 (PAUSE■)	
D520	8-719-301-59	LED SEL2910A (ROCK)	
D521	8-719-301-59	LED SEL2910A (JAZZ)	
D522	8-719-301-59	LED SEL2910A (DANCE)	
D523	8-719-301-59	LED SEL2910A (TUNER)	
D524	8-719-301-59	LED SEL2910A (TIMER)	
D525	8-719-301-43	LED SEL2410E-C-TP6 (TUNER/BAND)	
D529	8-719-014-73	LED UZP-5.6BC-TP	
D530-533	8-719-987-63	DIODE 1N4148M	
D541	8-719-301-59	LED SEL2910A (ROCK)	
D542	8-719-301-59	LED SEL2910A (POPS)	
D543	8-719-301-59	LED SEL2910A (JAZZ)	
D544	8-719-301-59	LED SEL2910A (CLASSIC)	
D545	8-719-301-59	LED SEL2910A (DANCE)	
D550	8-719-301-59	LED SEL2910A (CD)	
D551	8-719-301-59	LED SEL2910A (TUNER)	
D552	8-719-301-59	LED SEL2910A (TIMER)	
< INDICATOR TUBE >			
FL501	1-517-341-21	INDICATOR TUBE, FLUORESCENT	
< IC >			
IC501	8-752-862-43	IC CXP82612-006Q	
IC502	8-749-923-43	IC GP1U57XB	
IC503	8-759-634-51	IC M5218AP	
IC504	8-759-634-51	IC M5218AP	
< PILOT LAMP >			
PL501	1-518-511-21	LAMP, PILOT (EQ CONTROL)	

Ref. No.	Part No.	Description	Remark			
< TRANSISTOR >						
Q501	8-729-900-80	TRANSISTOR	DTC114ES			
Q502	8-729-118-01	TRANSISTOR	2SB1116-K			
Q503	8-729-118-01	TRANSISTOR	2SB1116-K			
Q507	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q511-520						
	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q523	8-729-422-57	TRANSISTOR	UN4111			
Q524	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q525	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q526	8-729-900-80	TRANSISTOR	DTC114ES			
< RESISTOR >						
R501-510						
	1-249-429-11	CARBON	10K	5%	1/4W	
R511	1-249-419-11	CARBON	1.5K	5%	1/4W	
R512	1-247-811-31	CARBON	150	5%	1/4W	
R513	1-249-410-11	CARBON	270	5%	1/4W	
R514	1-249-408-11	CARBON	180	5%	1/4W	
R515	1-249-409-11	CARBON	220	5%	1/4W	
R516	1-249-411-11	CARBON	330	5%	1/4W	
R517	1-249-413-11	CARBON	470	5%	1/4W	
R518	1-249-403-11	CARBON	68	5%	1/4W	
R519	1-247-807-31	CARBON	100	5%	1/4W	
R520	1-247-807-31	CARBON	100	5%	1/4W	
R522	1-249-401-11	CARBON	47	5%	1/4W	
R523	1-249-409-11	CARBON	220	5%	1/4W	
R524	1-249-419-11	CARBON	1.5K	5%	1/4W	
R525	1-247-811-31	CARBON	150	5%	1/4W	
R526	1-249-410-11	CARBON	270	5%	1/4W	
R527	1-249-408-11	CARBON	180	5%	1/4W	
R537	1-249-419-11	CARBON	1.5K	5%	1/4W	
R538	1-247-811-31	CARBON	150	5%	1/4W	
R539	1-249-410-11	CARBON	270	5%	1/4W	
R540	1-249-408-11	CARBON	180	5%	1/4W	
R541	1-249-409-11	CARBON	220	5%	1/4W	
R542	1-249-411-11	CARBON	330	5%	1/4W	
R543	1-249-413-11	CARBON	470	5%	1/4W	
R544	1-249-414-11	CARBON	560	5%	1/4W	
R545	1-249-416-11	CARBON	820	5%	1/4W	
R546	1-249-418-11	CARBON	1.2K	5%	1/4W	
R547	1-249-420-11	CARBON	1.8K	5%	1/4W	
R548	1-249-423-11	CARBON	3.3K	5%	1/4W	
R549	1-249-427-11	CARBON	6.8K	5%	1/4W	
R550	1-249-419-11	CARBON	1.5K	5%	1/4W	
R551	1-247-811-31	CARBON	150	5%	1/4W	
R552	1-249-410-11	CARBON	270	5%	1/4W	
R553	1-249-408-11	CARBON	180	5%	1/4W	
R554	1-249-409-11	CARBON	220	5%	1/4W	

Ref. No.	Part No.	Description	Remark			
R555	1-249-411-11	CARBON	330	5%	1/4W	
R556	1-249-413-11	CARBON	470	5%	1/4W	
R557	1-249-414-11	CARBON	560	5%	1/4W	
R558	1-249-416-11	CARBON	820	5%	1/4W	
R559	1-249-418-11	CARBON	1.2K	5%	1/4W	
R560	1-249-420-11	CARBON	1.8K	5%	1/4W	
R561	1-249-423-11	CARBON	3.3K	5%	1/4W	
R562	1-249-418-11	CARBON	1.2K	5%	1/4W	
R563	1-247-903-00	CARBON	1M	5%	1/4W	
R564-568						
	1-247-807-31	CARBON	100	5%	1/4W	
R569	1-249-429-11	CARBON	10K	5%	1/4W	
R570	1-249-421-11	CARBON	2.2K	5%	1/4W	
R571	1-249-429-11	CARBON	10K	5%	1/4W	
R572	1-249-421-11	CARBON	2.2K	5%	1/4W	
R576	1-247-807-31	CARBON	100	5%	1/4W	
R577	1-249-402-11	CARBON	56	5%	1/4W	
R578-580						
	1-249-399-11	CARBON	33	5%	1/4W	
R581	1-249-401-11	CARBON	47	5%	1/4W	
R582	1-249-401-11	CARBON	47	5%	1/4W	
R583	1-247-807-31	CARBON	100	5%	1/4W	
R584	1-249-402-11	CARBON	56	5%	1/4W	
R585	1-247-811-31	CARBON	150	5%	1/4W	
R586-588						
	1-249-409-11	CARBON	220	5%	1/4W	
R589	1-249-421-11	CARBON	2.2K	5%	1/4W	
R590	1-247-807-31	CARBON	100	5%	1/4W	
R591	1-249-413-11	CARBON	470	5%	1/4W	
R592	1-247-807-31	CARBON	100	5%	1/4W	
R593	1-249-429-11	CARBON	10K	5%	1/4W	
R595	1-249-437-11	CARBON	47K	5%	1/4W	
R596	1-249-429-11	CARBON	10K	5%	1/4W	
R597	1-249-409-11	CARBON	220	5%	1/4W	
R598	1-247-807-31	CARBON	100	5%	1/4W	
R599	1-249-408-11	CARBON	180	5%	1/4W	
R600	1-249-435-11	CARBON	33K	5%	1/4W	
R601	1-249-441-11	CARBON	100K	5%	1/4W	
R602	1-247-895-00	CARBON	470K	5%	1/4W	
R604	1-249-435-11	CARBON	33K	5%	1/4W	
R605	1-249-441-11	CARBON	100K	5%	1/4W	
R606	1-247-895-00	CARBON	470K	5%	1/4W	
R608	1-249-435-11	CARBON	33K	5%	1/4W	
R609	1-249-441-11	CARBON	100K	5%	1/4W	
R610	1-247-895-00	CARBON	470K	5%	1/4W	
R612	1-249-435-11	CARBON	33K	5%	1/4W	
R613	1-249-441-11	CARBON	100K	5%	1/4W	
R614	1-247-895-00	CARBON	470K	5%	1/4W	

AMS ENCODER

PANEL

POWER

Ref.No.	Part No.	Description	Remark
R616-619			
	1-249-437-11	CARBON	47K 5% 1/4W
R620	1-260-079-11	CARBON	22 5% 1/2W
R621	1-260-079-11	CARBON	22 5% 1/2W

< SWITCH >

S501	1-467-869-11	ENCODER, ROTARY (VOLUME)	
S502	1-467-968-11	ENCODER, ROTARY (-◀◀→▶▶+)	
S503	1-572-184-11	SWITCH, KEYBOARD (SURROUND)	
S504	1-554-303-21	SWITCH, TACTILE (CLOCK SET)	
S505	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S506	1-554-303-21	SWITCH, TACTILE (FUNCTION)	
S507	1-554-303-21	SWITCH, TACTILE (▶II)	
S508	1-554-303-21	SWITCH, TACTILE (□)	
S509	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE▲)	
S516	1-572-184-11	SWITCH, KEYBOARD (DBFB)	
S517	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY)	
S518	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)	
S519	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)	
S529	1-572-184-11	SWITCH, KEYBOARD (ROCK)	
S530	1-572-184-11	SWITCH, KEYBOARD (POPS)	
S531	1-572-184-11	SWITCH, KEYBOARD (JAZZ)	
S532	1-572-184-11	SWITCH, KEYBOARD (CLASSIC)	
S533	1-572-184-11	SWITCH, KEYBOARD (DANCE)	
S534	1-554-303-21	SWITCH, TACTILE (TIMER SET)	
S535	1-554-303-21	SWITCH, TACTILE (DAILY)	
S536	1-554-303-21	SWITCH, TACTILE (TIMER REC)	
S537	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S538	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S539	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S540	1-572-184-11	SWITCH, KEYBOARD (TUNING MODE)	
S541	1-554-303-21	SWITCH, TACTILE (MONO)	
S542	1-572-184-11	SWITCH, KEYBOARD (USER FILE)	
S543	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S544	1-554-303-21	SWITCH, TACTILE (▲)	
S545	1-554-303-21	SWITCH, TACTILE (◀)	
S546	1-554-303-21	SWITCH, TACTILE (▼)	
S547	1-554-303-21	SWITCH, TACTILE (▶)	
S548	1-572-184-11	SWITCH, KEYBOARD (DOLBY NR)	
S549	1-572-184-11	SWITCH, KEYBOARD (DIRECTION)	
S550	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)	
S551	1-554-303-21	SWITCH, TACTILE (HIGHT SPEED DUBBING)	
S552	1-554-303-21	SWITCH, TACTILE (REC●)	
S553	1-572-184-11	SWITCH, KEYBOARD (PAUSEII)	
S557	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	

< VIBRATOR >

X501	1-567-819-11	VIBRATOR, CERAMIC (4MHz)	
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Ref.No.	Part No.	Description	Remark
*	A-4377-339-A	POWER AMP BOARD, COMPLETE (AE1, EE)	
*	A-4377-351-A	POWER AMP BOARD, COMPLETE (AE2, UK, G, IT)	
*	A-4377-354-A	POWER AMP BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	

*	4-942-204-01	PLATE, GROUND	
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< CAPACITOR >

C901	1-124-927-11	ELECT	4.7uF	20%	100V
C902	1-162-292-31	CERAMIC	680PF	10%	50V
C903	1-162-286-31	CERAMIC	220PF	10%	50V
C904	1-126-233-11	ELECT	22uF	20%	50V
C905	1-126-967-11	ELECT	47uF	20%	50V
C906	1-124-122-11	ELECT	100uF	20%	50V
C908	1-126-233-11	ELECT	22uF	20%	50V
C910	1-136-495-11	FILM	0.068uF	5%	50V
C911	1-136-495-11	FILM	0.068uF	5%	50V
C920	1-126-923-11	ELECT	220uF	20%	10V
C925	1-162-284-31	CERAMIC	150PF	10%	50V
C951	1-124-927-11	ELECT	4.7uF	20%	100V
C952	1-162-292-31	CERAMIC	680PF	10%	50V
C953	1-162-286-31	CERAMIC	220PF	10%	50V
C954	1-126-233-11	ELECT	22uF	20%	50V
C955	1-126-967-11	ELECT	47uF	20%	50V
C956	1-124-122-11	ELECT	100uF	20%	50V
C960	1-136-495-11	FILM	0.068uF	5%	50V
C961	1-136-495-11	FILM	0.068uF	5%	50V

< CONNECTOR >

CN901	1-691-770-11	PLUG (MICRO CONNECTOR) 8P	
CN902	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	

< DIODE >

D901-903			
8-719-987-63	DIODE	1N4148M	
D951	8-719-987-63	DIODE	1N4148M

< IC >

IC901	8-749-941-52	IC	STK-4152II	(AEP, UK, G, IT, EE)
IC901	8-749-900-34	IC	STK-4182MK2	(E, EA, SP, MY, HK, MX, AR, AUS)

< TRANSISTOR >

Q901	8-729-116-83	TRANSISTOR	2SD1616-K	
Q951	8-729-116-83	TRANSISTOR	2SD1616-K	

< RESISTOR >

R901	1-249-417-11	CARBON	1K	5%	1/4W
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Ref. No.	Part No.	Description	Remark
R902	1-249-437-11	CARBON 47K 5% 1/4W	
R903	1-249-417-11	CARBON 1K 5% 1/4W	
R904	1-249-437-11	CARBON 47K 5% 1/4W	
R905	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R905	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R906	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R906	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R907	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R907	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R908	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R908	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
△R909	1-212-881-11	FUSIBLE 100 5% 1/4W F	
△R910	1-217-151-00	RES, METAL PLATE 0.22 F	(AEP, UK, G, IT, EE)
△R910	1-217-156-00	RES, METAL PLATE 0.22 F	(E, EA, SP, MY, HK, MX, AR, AUS)
R911	1-249-417-11	CARBON 1K 5% 1/4W	
R912	1-249-431-11	CARBON 15K 5% 1/4W	
R913	1-249-441-11	CARBON 100K 5% 1/4W	
R914-917	1-249-421-11	CARBON 2.2K 5% 1/4W	
R918	1-249-397-11	CARBON 22 5% 1/4W	
R919	1-249-397-11	CARBON 22 5% 1/4W	
R927	1-249-429-11	CARBON 10K 5% 1/4W	
R928	1-249-441-11	CARBON 100K 5% 1/4W	
R930	1-249-429-11	CARBON 10K 5% 1/4W	
R942	1-249-429-11	CARBON 10K 5% 1/4W	
△R944	1-217-637-00	FUSIBLE 1 5% 1/4W F	
R951	1-249-417-11	CARBON 1K 5% 1/4W	
R952	1-249-437-11	CARBON 47K 5% 1/4W	
R953	1-249-417-11	CARBON 1K 5% 1/4W	
R954	1-249-437-11	CARBON 47K 5% 1/4W	
R955	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R955	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R956	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R956	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R957	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R957	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)

Ref. No.	Part No.	Description	Remark
R958	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R958	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
△R959	1-212-881-11	FUSIBLE 100 5% 1/4W F	
△R960	1-217-151-00	RES, METAL PLATE 0.22 F	(AEP, UK, G, IT, EE)
△R960	1-217-156-00	RES, METAL PLATE 0.22 F	(E, EA, SP, MY, HK, MX, AR, AUS)
R961	1-249-417-11	CARBON 1K 5% 1/4W	
R962	1-249-431-11	CARBON 15K 5% 1/4W	
R963	1-249-441-11	CARBON 100K 5% 1/4W	
R968	1-249-397-11	CARBON 22 5% 1/4W	
R969	1-249-397-11	CARBON 22 5% 1/4W	

*	1-655-369-11	TC SWITCH BOARD	*****
		< CONNECTOR >	
CN505	1-568-954-11	PIN, CONNECTOR (STRAIGHT) 5P	
		< DIODE >	
D512	8-719-033-06	LED SEL5920A (A)	
D513	8-719-046-42	LED SEL5421E-TH8F (▷)	
D526	8-719-033-06	LED SEL5920A (B)	
D527	8-719-046-42	LED SEL5421E-TH8F (<)	
		< RESISTOR >	
R528	1-249-409-11	CARBON 220 5% 1/4W	
R529	1-249-411-11	CARBON 330 5% 1/4W	
R530	1-249-413-11	CARBON 470 5% 1/4W	
R531	1-249-414-11	CARBON 560 5% 1/4W	
R532	1-249-416-11	CARBON 820 5% 1/4W	
R533	1-249-418-11	CARBON 1.2K 5% 1/4W	
R534	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S520	1-554-303-21	SWITCH, TACTILE (A DECK/B DECK)	
S521	1-554-303-21	SWITCH, TACTILE (<)	
S522	1-554-303-21	SWITCH, TACTILE (▷)	
S523	1-554-303-21	SWITCH, TACTILE (■)	
S524	1-554-303-21	SWITCH, TACTILE (▶▶)	
S525	1-554-303-21	SWITCH, TACTILE (◀◀)	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

TRANSFORMER

Ref. No.	Part No.	Description	Remark
*	1-655-373-11	TRANSFORMER BOARD *****	
	1-533-293-11	FUSE HOLDER	
	< CONNECTOR >		
* CN801	1-564-526-11	PLUG, CONNECTOR 11P	
CN851	1-564-321-00	PIN, CONNECTOR 2P	
	< FUSE >		
△F801	1-532-237-00	FUSE (3.15A/250V) (E, EA, SP, HK, MX, AR)	
△F802	1-532-078-00	FUSE, TIME-LAG (1A/250V) (AEP, UK, G, IT, EE)	
△F802	1-532-259-00	FUSE (1.6A/250V) (E, EA, SP, MY, HK, AR, AUS)	
	< SWITCH >		
△S801	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E, EA, SP, HK, AR)	

	MISCELLANEOUS *****		
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3)	
12	1-569-008-11	ADAPTER, CONVERSION 2P (EA, SP, AR)	
13	1-770-019-11	ADAPTOR, CONVERSION (HK)	
63	1-654-751-11	PC BOARD, FLEXIBLE	
65	1-769-689-31	WIRE (FLAT TYPE) (21 CORE)	
66	1-769-688-31	WIRE (FLAT TYPE) (11 CORE)	
67	1-769-690-31	WIRE (FLAT TYPE) (17 CORE)	
303	1-452-719-11	MAGNET ASSY	
△355	8-848-387-01	DEVICE, OPTICAL KSS-213BA/S-N	
356	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
△CNP801	1-575-651-11	CORD, POWER (AEP, G, IT, EE, EA, SP, MY, HK, AR)	
△CNP801	1-575-653-11	CORD, POWER (E, MX)	
△CNP801	1-696-847-11	CORD, POWER (AUS)	
△CNP801	1-751-520-21	CORD, POWER (UK)	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK-A)	
HRPE1011	500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK-B)	
M1	X-3369-110-1	MOTOR ASSY (CAPSTAN)	
M2	X-3369-111-1	MOTOR ASSY (TRIGGER)	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M903	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
△T801	1-427-794-12	TRANSFORMER, POWER (AEP, G, IT, EE, UK)	

Ref. No.	Part No.	Description	Remark
△T801	1-427-795-11	TRANSFORMER, POWER (E, EA, AR, HK, MX, MY, SP, AUS)	

	ACCESSORIES & PACKING MATERIALS *****		
	1-467-967-11	REMOTE COMMANDER (RM-S33) (UK)	
	1-501-374-11	ANTENNA, LOOP (UK)	
	1-501-594-11	ANTENNA (FM) (UK)	
	2-181-754-21	COVER (MLY), BATTERY (UK)	
	3-798-608-11	MANUAL, INSTRUCTION (ENGLISH) (UK)	
	4-941-762-01	COVER (MLY), BATTERY (UK)	
*	4-972-277-01	INDIVIDUAL CARTON (UK)	
*	4-972-288-01	CUSHION (FRONT)	
*	4-972-289-01	CUSHION (REAR)	

	***** HARDWARE LIST *****		
#1	7-685-646-79	SCREW +BVTP 3×8 TYPE2 N-S	
#2	7-685-650-79	SCREW +BVTP 3×16 TYPE2 IT-3	
#3	7-682-548-04	SCREW +BVTT 3×8 (S)	
#4	7-685-645-79	SCREW +BVTP 3×6 TYPE2 N-S	
#5	7-685-533-19	SCREW +BTP 2.6×6 TYPE2 N-S	
#6	7-621-775-00	SCREW +B 2.6×3	
#7	7-685-534-19	SCREW +BTP 2.6×8 TYPE2 N-S	
#8	7-621-775-10	SCREW +B 2.6×4	
#9	7-623-921-01	RING, RETAINING, CAPSTAN	
#10	7-621-255-15	SCREW +P 2×3	
#11	7-621-770-67	SCREW +BVTT 2.6×6 (S)	
#12	7-685-131-19	SCREW +BTP 2.6×4 TYPE2 N-S	
#13	7-685-871-01	SCREW +BVTT 3×6 (S)	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.